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BLUE BOOK

1938

for manufacturers and distributors of

SOAPS
INSECTICIDES
DISINFECTANTS
CHEMICAL SPECIALTIES
SANITARY SUPPLIES
POLISHES
CLEANERS

Issued Annually by the Publishers of

Soap and Sanitary Chemicals

NEW YORK

DU PONT
REG. U.S. PAT. OFF.

AROMATICS

for the soap manufacturer

CINNAMIC ALCOHOL
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MUSK XYLOL
CEDROL
METHYL RHODIONE EXTRA
GERANIUM ARTIFICIAL
ISOBORNYL ACETATE
GERANIOL FOR SOAP
GERANIOL STANDARD
GERANIOL EXTRA
CITRAL
MUSK AMBRETTE
ROSEMARY ARTIFICIAL
BENZOPHENONE
RHODIONE FOR SOAP
RHODIONE AB
ALPINE VIOLET
AMYL SALICYLATE
HYACYLENE P and S (Dimethyl Acetal of Phenyl Acetaldehyde)
MUGOL (Dimethyl Acetal of Hydroxycitronellal)
METHYL ACETOPHENONE
HYDROXYCITRONELLAL
TERPINYL ACETATE EXTRA
DIMETHYL HYDROQUINONE
COUMARIN
BENZYL ALCOHOL PURE
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FINE CHEMICALS DIVISION
WILMINGTON, DELAWARE

61 THOMAS STREET
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CHICAGO, ILL.

BLUE BOOK

1938

1940 ad
4/25/40

AN ANNUAL BUYERS GUIDE,
DIRECTORY AND REFERENCE
VOLUME FOR MANUFACTURERS
AND DISTRIBUTORS OF SOAPS,
INSECTICIDES, DISINFECTANTS,
POLISHES, CLEANERS AND
ALLIED CHEMICAL SPECIALTIES

Tenth Edition

ISSUED ANNUALLY BY

Mac Nair-Dorland Company

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ORBIS

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JUN 30 '38

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1938 c.1

Foreword

THE BLUE BOOK is intended as a condensed buying guide for manufacturers and bulk buyers of soaps, insecticides, disinfectants, polishes, cleaners and allied sanitary supplies. It seeks to tell these concerns not only what to buy and where to buy, but how to buy as well.

The 1938 edition is divided into two sections,—a buyers' guide starting on page 7 and a reference section starting on page 107. In the buyers' guide section it is the intent of the publishers to list accredited sources of supply for a complete list of raw materials, machinery and equipment purchased by manufacturers of soaps and sanitary products. This section also lists manufacturers of soaps and sanitary products who make these products and resell them in bulk through the sanitary supply and jobbing trades. **These listings are not intended as a complete dirctory of the industry.** Many leading producers, who do not resell in bulk, have been purposely omitted.

The appendix contains a series of reference articles, with special attention being given to data on testing and specifications. Latest revised specifications and testing procedure for a variety of products are included.

The extent of the field covered and the nature of the subject matter make some errors unavoidable in a book of this type. If the name of your firm has been omitted or incorrectly listed, we shall appreciate being notified.

THE PUBLISHERS.

March 15, 1938.

Above: New "Campbell Turntable" Testing Equipment in the McCormick laboratories for making comparative tests of liquid insecticides. Tests are being made to establish the relationship between the "Campbell Turntable" method and the "Peet-Grady" method.

Below: "Peet-Grady" method Death-House in the McCormick laboratories for making comparative tests of liquid insecticides. Flies are scientifically raised for testing purposes in a special insectary in the laboratory.

Below: Analytical section of the McCormick laboratories, where, among other daily tests of insecticides, chemical assay of pyrethrum flowers is made by the Gnadinger and Corl and the H. A. Siel methods.

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for extraction purposes

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McCORMICK & COMPANY, Inc.

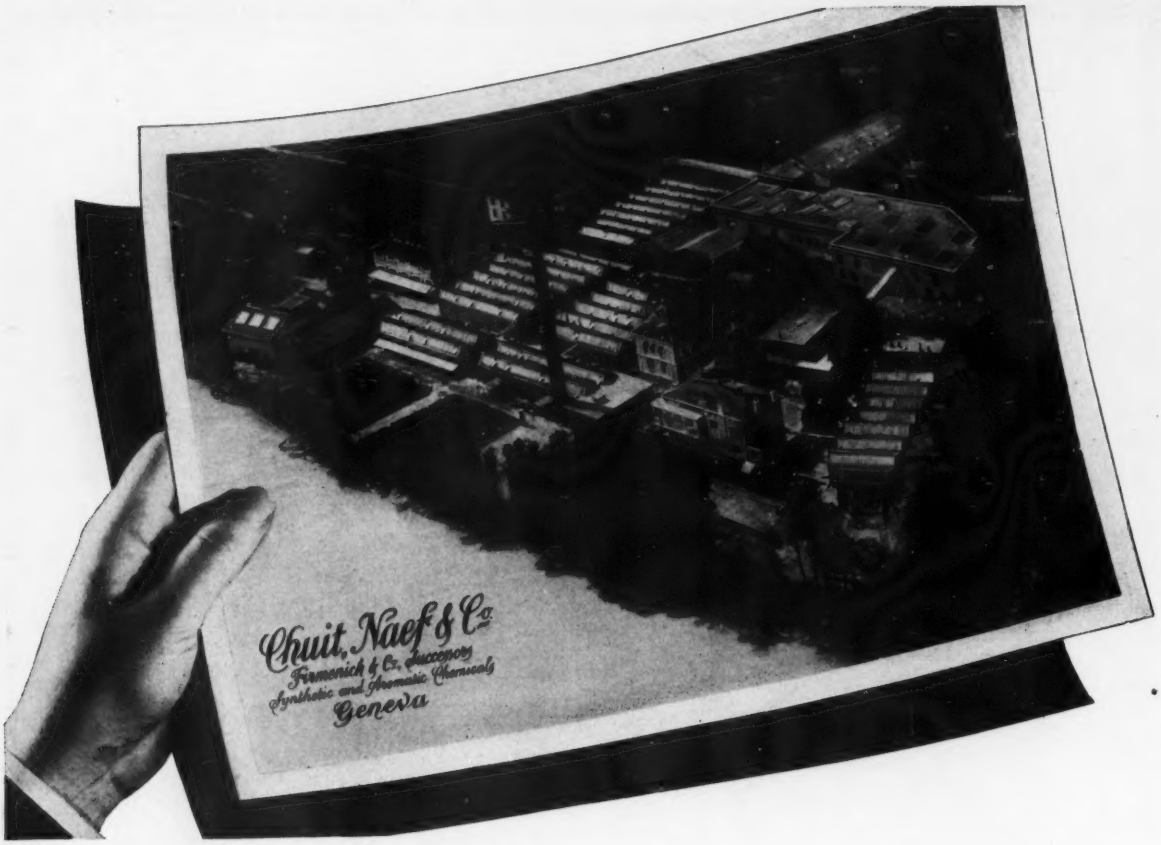
BALTIMORE, MARYLAND, U. S. A.

IN CANADA: McCormick & Co. (Canada) Ltd., 454 King Street, West, Toronto, Ontario

Buyers' Guide Section

LISTING SOURCES OF SUPPLY FOR RAW MATERIALS, MACHINERY AND EQUIPMENT BOUGHT BY MANUFACTURERS OF SOAPS AND SANITARY CHEMICALS.

Included in this section are the names of manufacturers of soaps and sanitary chemicals who sell private brand and bulk products to jobbers and distributors. It is not intended to list concerns who sell direct to consumers.



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Goris & Arnstein, 3700 Racine Ave., Chicago
Hammill & Gillespie, 225 Broadway, N.Y.
Jungmann & Co., 157 Chambers St., N. Y.
Mid-Co., Products Co., 2 Railway Exch, Bldg., Kansas City, Mo.
Natural Products Co., 307 W. 8th St., Los Angeles, Cal.
National Pumice Stone Co., Inc., Foot of Halsey St., Astoria, L. I.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Tamms Silica Co., 229 N. La Salle St., Chicago
Whittaker Clark & Daniels, 260 W. B'way, N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

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(see also Dealers)

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Clifts-Dow Chemical Co., Marquette, Mich.
Commercial Solvents Corp., 230 Park Ave., N.Y.
Wm. S. Gray & Co., 342 Madison Ave., N.Y.
R. W. Greeff & Co., 10 E. 40th St., N.Y.
Kessler Chem. Corp., 239 11th Ave., N.Y.
Publicker Commercial Alcohol Co., 260 E. Broad St., Phila.
U. S. Industrial Chem. Co., 60 E. 42nd St., N.Y.

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(see also Dealers)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del
General Chemical Co., 40 Rector St., N.Y.
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Rohm & Haas Co., Inc., 222 W Washington Sq., Phila.
Jos. Turner & Co., 630 5th Ave., N.Y.
Victor Chemical Wks., 141 W. Jackson Blvd, Chicago

ADHESIVES

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Armour Glue Wks., 1355 W. 31st St., Chicago
C. W. Campbell Co., 157 Chambers St., N.Y.
Dennison Mfg. Co., Framingham, Mass.
E. I. du Pont de Nemours & Co., Wilmington, Del.
W. H. Gage Glue Co., 19 S. Main St., St. Louis
Hull Co., 305 Washington St., Brooklyn
Mechling Bros., Chemical Co., Camden, N.J.
National Adhesives Corp., 822 Greenwich St., N.Y.
Neville Co., Neville Island, Pittsburgh
Philadelphia Quartz Co., 125 S. 3rd St., Philadelphia
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sanford Mfg. Co., W. Congress & Peoria St., Chicago
A. E. Staley Mfg. Co., Decatur, Ill.
Standard Silicate Co., Bond Hill, Cincinnati
Stein, Hall & Co., 285 Madison Ave., N.Y.

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Beach-Russ Co., 50 Church St., N.Y.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Ertel Engineering Corp., 120 E. 16th St., N.Y.
Foster Pump Works, 50 Washington, St., Brooklyn
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
J. M. Lehmann Co., 248 W. Broadway, N.Y.
Littleford Bros., 443 E. Pearl St., Cincinnati
Mixing Equipment Co., Inc., 1024 Garson Ave., Rochester, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Machy. Co., East Liverpool, Ohio
Pfaudler Co., 89 East Ave., Rochester, N. Y.
Read Machy. Co., York, Pa.
Scientific Filter Co., 1 Franklin Sq., N.Y.
Ernest Scott & Co., P. O. Box 82, Fall River, Mass.
Sowers Mfg. Co., 1296 Niagara St., Buffalo
Sprout Waldron & Co., Muncy, Pa.
Struthers-Wells Co., Warren, Pa.

AGRICULTURAL INSECTICIDES

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Calif.
Ansbacher-Siegle Corp., Rosebank, S. I.
Bowker Chemical Co., 50 Church St., N.Y.
California Spray Chemical Corp., 15 Shattuck Sq., Berkeley, Calif.
Chipman Chemical Co., Bound Brook, N.J.
Dow Chemical Co., Midland, Mich.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
James Good, Inc., Kensington, Phila.
Jungmann & Co., 157 Chambers St., N.Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
McLaughlin, Gormley King Co., 1715—5th St., S. E. Minneapolis
Mechling Bros. Chemical Co., Camden, N. J.
Peck's Products Co., St. Louis, Mo.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sherwin-Williams Co., 292 Madison Ave., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
Tobacco By-Products & Chem. Corp., Louisville, Ky.
White Tar Co., of N. J., Belleville Turnpike, Kearny, N.J.

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Ansbacher-Siegle Corp., Rosebank, S. I.
Dicalite Co., 120 Wall St., N.Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
James Good, Inc., Kensington, Phila.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N.Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.

AIR COMPRESSORS (see COMPRESSORS, AIR)

ALCOHOL (Ethyl and Denatured)
(see also Dealers)

American Coml. Alcohol Corp. 405 Lexington Ave., N.Y.
Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 230 Park Ave., N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Pennsylvania Sugar Co., 139 S. 3rd St., Phila.
Publicker Commercial Alcohol Co., 260 E. Broad St., Phila.
U. S. Industrial Alcohol Co., 60 E. 42nd St., N.Y.

ALCOHOL (Methyl or Wood)
(see also Dealers)

Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N. Y.
Cliffs-Dow Chemical Co., Marquette, Mich.
Commercial Solvents Corp., 230 Park Ave., N.Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Publicker Commercial Alcohol Co., 260 S. Broad St. Philadelphia
U. S. Industrial Alcohol Co., 60 E. 42nd St., N.Y.
Wood Products Co., Buffalo, N.Y.

ALKALIES, see CAUSTIC SODA, SODA ASH, CAUSTIC POTASH, ETC.

ALUMINUM FOIL

Aluminum Co. of America, Gulf Bldg., Pittsburgh
Reynolds Metals Co., 19 Rector St., N.Y.C.

ALUMINUM STEARATE (see STEARATES)

ALUMS
(see also Dealers)

Aluminum Co., of America, Gulf Bldg., Pittsburg
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Armour Ammonia Wks., 1355 W. 31st St., Chicago
E. I. Du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.

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Benzyl Benzoate
Ethyl Benzoate

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Acetophenone
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(Beta-Naphthol Methyl Ether)

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Ethyl Phenyl Acetate
Amyl Phenyl Acetate

Alpha Amyl Cinnamic Aldehyde
Methyl Formate
Ethyl Formate

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Dibutyl Tartrate

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Rohm & Haas Co., Inc., 222 W Washington Sq., Phila.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.

AMALGAMATORS (see SOAP MACHINERY)

AMMONIA WATER
(see also Dealers)

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Barrett Co., 40 Rector St., N.Y.
Henry W. Bower Chemical Co., Phila.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Rohm & Haas Co., Inc., 222 W Washington Sq., Phila.
Jos. Turner & Co., 630 5th Ave., N.Y.

AMMONIUM BI-FLUORIDE (see FLUORIDES)

AMMONIUM CARBONATE
(see also Dealers)

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E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

AMMONIUM CHLORIDE

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Jungmann & Co., 157 Chambers St., N.Y.
E. M. Sergeant Pulp & Chem. Co., Empire State Bdg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

AMYL CINNAMIC ALDEHYDE (see AROMATIC CHEMICALS)

AMYL SALICYLATE (see AROMATIC CHEMICALS)

ANIMAL DIPS (see CATTLE DIPS)

ANISE OIL (see ESSENTIAL OILS)

ANISIC ALDEHYDE (see AROMATIC CHEMICALS)

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Buckeye Chem. & Specialty Co., 131 E. 23rd St., N.Y.
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Chemical Supply Co., 2450 Canal Rd., Cleveland
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Foote Mineral Co., 1609 Summer St., Phila.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
Maywood Pest Exterminators, 1206 S. 1st Ave., Maywood, Ill.
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Ore & Chemical Corp., 80 Broad St., N.Y.
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Dodge & Olcott Co., 180 Varick St., N.Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago, Ill.
Chicago, Ill.
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Felton Chemical Co., 603 Johnson Ave., Bklyn.
Firmenich & Co., 135 Fifth Ave., N.Y.
Chas. Fischbeck Co., 119 W. 19th St., N.Y.
Florasynth Laboratories, 1513 Olmstead Ave., Bronx, N.Y.
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Givaudan-Delawanna, Inc., 80—5th Ave., N.Y.
Heyden Chemical Corp., 50 Union Square, N.Y.
C. E. Ising Corp., Flushing, L. I., N.Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N.Y.
Pierre Lemoine, Inc., 67 Cortland St., N.Y.
Geo. Lueders & Co., 427 Washington St., N.Y.
Magnus, Mabee & Reynard, 32 Cliff St., N.Y.
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Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
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Edwin Seebach Co., 912 Broadway, N.Y.
Wm. G. Sibbach & Co., 201 S. 2nd Ave., Maywood, Ill.
Synfleur Scientific Labs., Monticello, N.Y.
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ARSENATE OF LEAD (see LEAD ARSENATE)

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Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N.J.
Koppers Co., Koppers Bldg., Pittsburgh
McLaughlin, Gormley King Co., Minneapolis
White Tar Co., Kearny, N. J.

ARSENIC

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American Smelting & Refining Co., 120 Broadway, N.Y.
Charles Hardy, Inc., 415 Lexington Ave., N.Y.
Harshaw Chemical Co., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Pfaltz & Bauer, Inc., 350 Fifth Ave., N.Y.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.

ATOMIZERS, (see Sprayers, Bottle)

AUTO SOAPS (See Potash Soaps)

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Hammond Bag and Paper Co., Wellsburg, W. Va.
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Union Bag & Paper Co., 233 B'way, N.Y.

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Geo. Lueders & Co., 427 Washington St., N.Y.
Magnus, Mabee & Reynard, 32 Cliff St., N.Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
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E. I. Du Pont de Nemours & Co., Wilmington, Del.
Fezandie & Sperrle, 205 Fulton St,, N.Y.
Foote Mineral Co., 1609 Summer St., Philadelphia
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.
Merck & Co., Rahway, N.J.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

BARREL LINERS (See BAGS AND BAG LINERS)

BARRELS (Fibre)

Canister Co., Phillipsburg, N.J.
Carpenter Container Co., 147—41st St., Brooklyn
Champion Container Co., Water & Morris Sts., Phila.
Container Co., Van Wert, O.
Diamond State Fibre Co., Bridgeport, Pa.
Master Package Corp., Owen, Wisc.
Rogers Fibre Co., 210 Lincoln St., Boston
Seymour & Peck Co., (Plywood)
917 W. 29th St., Chicago
Spaulding Fibre Co., Rochester, N. H.

BARRELS (Steel)

American Cooperage Co., Maurer, N.J.
American Steel Package Co., Defiance, O.
Draper Mfg. Co., Cleveland, O.
Fetter Steel Barrel Corp., Buffalo
Globe Steel Barrel Co., Cleveland
Manion Steel Barrel Co., Rouseville, Pa.
Meurer Steel Barrel Co., 105 Avenue L., Newark, N.J.
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Niles Steel Prod. Co., 465 Walnut St., Niles Ohio
Petroleum Iron Works Co., Sharon, Pa.
Pittsburgh Can Co., Pittsburgh
Pressed Steel Tank Co., Milwaukee, Wis.
Republic Steel Package Co., 7930 Jones Rd., Cleveland
St. Louis Steel Package Co., St. Louis, Mo.
F. C. Thornton Co., 6700 Union Ave., Chicago
John Trageser Steam Copper Works,
Grand Ave., Maspeth, L. I., N.Y.
Wackman Welded Ware Co., 7th & Victor Sts. St. Louis
Wheeling Corrugating Co., Wheeling, W. Va.
Wilson & Bennett Mfg. Co., 6532 S. Menard St., Chicago

BARRELS (Used Steel)

American Cooperage Co., Maurer, N.J.
Newark Steel Drum Co., Linden, N.J.
Newman Tallow & Soap Machinery Co.,
1051 W. 35th St., Chicago
Snow Brokerage Co., 21 West St., N.Y.

BARRELS (Wooden)

Allied Barrel Co., Oil City, Pa.
American Barrel Co., 205 Bridge St., Salem, Mass.
American Cooperage Co., Maurer, N.J.
Atlantic Tank & Barrel Corp., North Bergen, N.J.
Colwell Cooperage Co., Jersey Ave., Jersey City, N.J.
J. D. Hollingshead Co., 612 N. Michigan Ave., Chicago
Louisville Cooperage Co., Louisville, Ky.
Michel Cooperage Co., Sandusky, O.
Weinrick Cooperage Co., Burlington, Iowa
Western Cooperage Co., Portland, Oregon

BARREL TILTERS

Economy Eng. Co., 2651 W. Van Buren St., Chicago
Schwenck Safety Device Corp., 80 Broad St., N.Y.

BATH SALT COLORS (See COLORS)

BATH SALTS

Eagle Soap Corp., Huntington, Ind.
Jansen Soap & Chemical Co.,
324 Leavenworth St., San Francisco, Cal.
Lightfoot-Schultz Co., 1412 Park Ave., Hoboken, N.J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Solvay Sales Corp., 40 Rector St., N.Y. (Unperfumed)
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

BAY OIL (see ESSENTIAL OILS)

BAY RUM

P. R. Dreyer Inc., 12 E. 12th St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Givaudan-Delawanna, Inc., 80—5th Ave., N.Y.
Chas. L. Huisking & Co., 155 Varick St., N.Y.
Lanman & Kemp-Barclay Co., 135 Water St., N.Y.
McKesson & Robbins, 79 Cliff St., N.Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Ungerer & Co., 13 W. 20th St., N.Y.

BEES WAX

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Aromatic Products, Inc., 15 E. 30th St., N.Y.
Balfour, Guthrie & Co., Ltd., 67 Wall St., N.Y.
Candy & Co., 2515 W. 35th St.. Chicago
Cantol Wax Co., Bloomington, Ind.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago, Ill.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Koster-Keunen, Sayville, L. I., N.Y.
Theodore Leonhard Wax Co., Haledon, Paterson, N.J.
George H. Lincks, 123 Front St., N.Y.
Muench-Kreuzer Candle Co., Syracuse, N.Y.
Neumann-Buslee & Wolfe, 224 W. Huron St., Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
S. B. Penick & Co., 132 Nassau St., N.Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Frank G. Ross Co., 79 Wall St., N.Y.
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Strohmeyer & Arpe Co., 139 Franklin St., N.Y.
Will & Baumer Candle Co., Syracuse, N.Y.

BELLOWS, INSECT POWDER

Acmeline, Inc. Traverse City, Mich.
Central Rubber Products Co., 830 Broadway, N.Y.
(Bulbs)
Electric Eprayit Co., 226 N. Broadway, Milwaukee, Wisc.
Exterminating Materials Co., 712 Amsterdam Ave., N.Y.

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BELLOWS, INSECT POWDER (Cont'd.)

Feeny Mfg. Co., Muncie, Ind.
Getz Exterminators, Inc., 1139 Pine St., St. Louis
Thomas W. Houchin Corp., 9-15 McPherson Pl., Jersey City, N. J. (also Bulbs)
Lowell Mfg Co., North Pier Terminal, Chicago

BENTONITE

American Colloid Co., 363 W. Superior St., Chicago
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Chas. B. Chrystal Co., 11 Park Pl., N.Y.
Hammill & Gillespie, 225 Broadway, N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Natural Prods. Co., 307 W. 8th St. Los Angeles
Owyhee Chemical Products Co., 300 W. Adams St., Chicago
Paper Makers Chemical Corp., Kalamazoo, Mich.
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Silica Products Co., 700 Baltimore Ave., Kansas City, Mo.
A. E. Starkie Co., 1645 Kilbourne Ave., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
Whittaker, Clark & Daniels, 260 W. Broadway, N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.
Wyodak Chemical Co., 4600 E. 71st St. Cleveland

BENZALDEHYDE

van Ameringen-Haebler, Inc., 315—4th Ave., N.Y.
Dodge & Olcott Co., 180 Varick St., N.Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Fritzsche Brothers, Inc., 76—9th Ave., N.Y.
Givaudan-Delawanna, Inc., 80—5th Ave., N.Y.
Magnus, Mabee & Reynard, 32 Cliff St., N.Y.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Heyden Chem. Co., 50 Union Sq., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
Republic Chemical Co., 94 Beekman St., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Ungerer & Co., 13 W. 20th St., N.Y.
Van Dyk & Co., 57 Wilkinson Ave., Jersey City, N.J.
Albert Verley, Inc., 11 E. Austin Ave., Chicago

BENZENE (Benzol)

Barrett Co., 40 Rector St., N.Y.
S. H. Bell, 1407 Gulf Bldg., Pittsburgh
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Hydrocarbon Products, 500 Fifth Ave., N.Y.
William E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Neville Co., Pittsburgh
Republic Chemical Co., 94 Beekman St., N.Y.

BERGAMOT OIL (see ESSENTIAL OILS)

BICHROMATES

American-British Chm. Supplies, Inc., 180 Madison Ave., N.Y.
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Mutual Chem. Co. of America, 270 Madison Ave., N.Y.
Natural Prods, Refining Co., Jersey City, N.J.
Jos. Turner & Co., 630 5th Ave., N.Y.

BLEACHING AGENTS (Chlorine, Peroxide, etc.)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Buffalo Electro Chem. Co., River Rd. & Sawyer Ave., Buffalo, N.Y.
Columbia Alkali Corp., Barberton, Ohio
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Niagara Alkali Co., 9 E. 41st St., N.Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.
Warner Chem. Co., Chrysler Bldg., N.Y.

BLEACHING EARTHS (see CLAYS)

BLEACHING EQUIPMENT (for OILS), (see DEODORIZING EQUIPMENT)

BLEACHING POWDER (Chloride of Lime)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St. N.Y.
Niagara Alkali Co., 9 E. 41st St., N.Y.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

BLOCK HOLDERS (see HOLDERS, DEODORIZING BLOCK)

BLOWERS for POWDER INSECTICIDES (see BELLOWS)

BLOWERS, ELECTRIC (see SPRAYERS, ELECTRIC)

BLUING (see LAUNDRY BLUE)

BOILER COMPOUNDS

Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 2526 W. Congress St., Chicago
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., 140 Liberty St., N.Y.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington N.J.
Palmer Products Co., Waukesha, Wisc.
Peck's Products Co., St. Louis, Mo.
John Sunshine Chem. Co., 604 W. Lake St., Chicago
Trojan Products & Mfg. Co., 3107 S. Wabash Ave., Chicago
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

BOIS de ROSE OIL (see ESSENTIAL OILS)

BORAX

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
American Potash & Chem. Corp., 233 Broadway, N.Y.
Borax Union, 420 Lexington Ave., N.Y.
General Chem. Co., 40 Rector St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.
Pacific Coast Borax Co., 51 Madison Ave., N.Y.
Paper Makers Chemical Corp., Kalamazoo, Mich.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

BOTTLES

American Bottle Co., Toledo, O.
Anchor-Hocking Glass Corp., Lancaster, Ohio
Capstan Glass Co., Connellsville, Pa.
Graham Glass Co., Evansville, Ind.
Hazel Atlas Glass Co., Wheeling, W. Va.
Kimble Glass Co., Vineland, N.J.
Maryland Glass Corp., Baltimore, Md.
Millville Bottling Wks., Millville, N.J.
Owens Illinois Glass Co., Toledo, O.
F. E. Reed Glass Co., 860 Maple St., Rochester, N.Y.
Root Glass Co., Terre Haute, Ind.
Ruth Glass Co., Conshohocken, Pa.
Tygart Valley Glass Co., Washington, Pa.
T. C. Wheaton Co., Millville, N.J.

BOTTLE FILLING MACHINERY (see FILLING MACHINERY, BOTTLES)

BOTTLE WASHERS (see WASHING MACHINERY, BOTTLES)

BOX LINERS (see BAG LINERS)

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Sovereign
UPHOLSTERY
FABRIC
CLEANER
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BOXES (Corrugated and/or Fibre)

Brooklyn Fibre Syndicate, Decatur St. & Irving Ave., Brooklyn
Cambridge Paper Box Co., 196 Broadway, Cambridge, Mass.
Consolidated Paper Co., Monroe, Mich.
Container Corp. of America, 111 W. Washington St., Chicago
Robert Gair Co., 155 E. 44th St., N.Y.
Hinde & Dauch Paper Co., 215 Decatur St., Sandusky, O.
F. J. Kress Box Co., 2930 Liberty Ave., Pittsburgh
Owens-Illinois Glass Co., Toledo, O.
River Raisin Paper Co., Monroe, Mich.

BOXES (Fancy Paper)

Alderman-Fairchild Co., 367 Orchard St., Rochester, N.Y.
Baxter Paper Co., Brunswick, Maine
F. N. Burt Co., Ltd., 540 Seneca St., Buffalo, N.Y.
C. J. Fox Co., 236 Abron St., Providence, R. I.
Foxon Paper Co., 230 West Park St., Providence, R.I.
Robert Gair Co., 155 E. 44th St., N.Y.
R. R. Heywood, Inc., 26th St. & 9th Ave., N.Y.
R. J. Kitttredge Co., 812 W. Superior St., Chicago
Pictorial Package Co., Aurora, Ill.
Potomac Lithograph Mfg. Co., Washington, D.C.
W. C. Ritchie & Co., 400 S. Green St., Chicago
Robertson Paper Box Co., Montville, Conn.
Geo. Schmitt & Co., Grand & Florence Sts., Brooklyn
Stobridge Lithographing Co., Norwood Station, Cincinnati
Sutherland Paper Co., Kalamazoo, Mich.
U. S. Printing & Lithographing Co., Norwood, Cincinnati

BOXES (Fancy Wooden)

Pilliod Cabinet Co., Swanton, O.

BROKERS (Chemicals)

S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Dickerson Co., Drexel Bldg., Phila.
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Chas. L. Huisking & Co., 155 Varick St., N.Y.
Leo Pasternak, Inc., 110 William St., N.Y.
Republic Chemical Co., 94 Beekman St., N.Y.
Thompson-Hayward Chem. Co., Des Moines, Iowa
George Uhe, Inc., 80 8th Ave., N.Y.

BROKERS (Oils and Fats)

Irving R. Boody Co., 99 Wall St., N.Y.
Davidson Commission Co., 175 Jackson Blvd., Chicago
John W. Hall ,327 S. La Salle St., Chicago
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Hentz & Co., 60 Beaver St., N.Y.
Chas. Hollingshed Co., Produce Exchange, N.Y.
Horner Commission Co., 15 William St., N.Y.
Miller & Co., 2401 Chestnut St., Philadelphia
Rayner & Stonington, Inc., 79 Wall St., N.Y.
J. H. Redding Co., 17 Battery Pl., N.Y.
Republic Chemical Co., 94 Beekman St., N.Y.
Roesling, Monroe & Co., 99 Wall St., N.Y.
Snow Brokerage Co., 21 West St., N.Y.
Sterne & Son Co., Produce Exchange, N.Y.
Wm. M. Ware & Co., 88 Broad St., Boston
H. L. Webster & Co., 111 W. Washington St., Chicago
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.
G. A. Wharry & Co., 24 State St., N.Y.
Wilbur-Ellis Co., 17 Battery Pl., N.Y.
Wilson Brokerage, Inc., Produce Exchange, N.Y.

BROOMS

Alabama Broom & Mattress Co., Huntsville, Ala.
Burdett-Rose Mfg. Co., 6100 Independence Rd., Kansas, Mo
Chattanooga Broom & Mop Co., Chattanooga, Tenn.
Detroit Quality Brush Mfg. Co., 5937 Michigan Ave., Detroit
Eagle Woodenware Co., Hamilton, O.
Illinois Brush Mfg. C., 3316 Ogden Ave., Chicago
Kendallville Brush & Broom Co., Kendallville, Ind.
Tate Mfg. Co., 67 Sudbury St, Boston, Mass.
M. J. Toohey & Co., Fall River, Mass.

BRUSHES

American Standard Mfg. Co., 2509 Lime St., Chicago
Auburn Brush Co., Columbia, Pa.
Burdett-Rose Mfg. Co., 6100 Independence Rd, Kansas City, Mo.
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Detroit Quality Brush Mfg. Co., 5937 Michigan Ave., Detroi
Jos. O. Flatt & Co., 141 Cedar St., Reading, Pa.
Flour City Brush Co., 422 S. 4th St., Minneapolis
J. I. Holcomb Co., Indianapolis
Illinois Brush Mfg. Co., 3316 Ogden Ave., Chicago
W. E. Kautenberg Co., P. O. Box 255, Freeport, Ill.
Kendallville Brush & Broom Co., Kendallville, Ind.
National Brush Co., Aurora, Ill.
New Jersey Brush Mfg. Co., Newton, N. J.
Opie Brush Co., Kansas City, Mo.
Ox Fibre Brush Co., Frederick, Md.
Palmer Prods, Inc., Waukesha, Wisc.
Pioneer Mfg. Co., Cleveland, O.
Sanitary Mfg. Co., 926 Ft. Wayne Ave., Indianapolis, Ind.
Silver-Chamberlin Co., Clayton, N. J.
Sullivan Brush Co., Terre Haute, Ind.
Tate Mfg. Co., 67 Sudbury St., Boston, Mass.

CAJUPUT OIL (see ESSENTIAL OILS)

CALCIUM HYPOCHLORITE (see BLEACHING POWDER)

CALCIUM STEARATE see STEARATES)

CAMPHOR OIL, SASSAFRASSY (see ESSENTIAL OILS)

CAMPHOR OIL, WHITE (see ESSENTIAL OILS)

CAN FILLING MACHINERY (see FILLING MACHINERY, CANS)

CANANGA OIL (see ESSENTIAL OILS)

CANDELILLA WAX (see WAXES)

CANS (Fibre or Paper)

American Can Co., 230 Park Ave., N. Y.
Cambridge Paper Box Co., 196 Broadway, Cambridge, Mass
Canister Co., Phillipsburg, N. J.
Cin-Made Corp., 294 Eggleston Ave., Cincinnati
Cleveland Container Co., 10630 Berea Rd., Cleveland
Cross Paper Products Co., 2595 Third Ave., N.Y.
Fonda Container Co., 41 Park Row, N.Y.
Master Package Corp., Owen, Wisc.
Midwest Paper Container Co., 707 N. 3rd St., Minneapolis
National Can Co., 110 E. 42nd St., N.Y.
National Paper Can Co., Cudahy, Wis.
R. C. Can Co., 121 Chambers St., St. Louis
W. C. Ritchie & Co., 8855 S. Baltimore Ave., Chicago
Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Sifter Top)

American Can Co., 230 Park Ave., N.Y.
Anchor Hocking Glass Corp., Lancaster, Ohio
Cambridge Paper Box Co., 196 Broadway, Cambridge, Mass.
Canister Co., Phillipsburg, N. J.
Cleveland Container Co., 10630 Berea Rd., Cleveland
Cin-Made Corp., 294 Eggleston Ave., Cincinnati
Continental Can Co., Inc., 100 E. 42nd St., N.Y.
Crown Cork & Seal Co., Baltimore
Giles Can Co., 2444 W. 16th St., Chicago
National Can Co., 110 E. 42nd St., N.Y.
Owens-Illinois Can Co., Toledo, O.
R. C. Can Co., 121 Chambers St., St. Louis
Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Steel) (see PAILS, Steel)

CANS (Tin)

American Can Co., 230 Park Ave., N.Y.
Anchor Hocking Glass Corp., Lancaster, Ohio
J. L. Clark Mfg. Co., Rockford, Ill.
Columbia Can Co., 5221 Natural Bridge Ave., St. Louis
Continental Can Co., Inc., 100 E. 42nd St., N.Y.
Crown Cork & Seal Co., Baltimore

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CANS, TIN (Cont'd.)

General Can Co., 1603 S. Canal St., Chicago
Heekin Can Co., Cincinnati
Independent Can Co., 321 W. Ohio St., Chicago
National Can Co., 110 E. 42nd St., N.Y.
Owens-Illinois Can Co., Toledo, O.
Phoenix Metal Cap Co., 244 W. 16th St., Chicago
W. F. Robertson Steel & Iron Co., Springfield, O.
St. Louis Can Co., 904 S. 14th St., St. Louis

CAPPING MACHINERY

Alsop Engineering Corp., Milldale, Conn.
Anchor Hocking Glass Corp., Lancaster, Ohio
Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Crown Cork & Seal Co., Baltimore, Md.
R. G. Haskins Co., 4642 W. Fulton St., Chicago
Karl Kiefer Machine Co., Cincinnati, Ohio
Ludcke Co., 41 N. Beacon St., Watertown, Mass.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chic. (Used)
Phoenix Metal Cap Co., 2444 W. 16th St., Chicago
Pneumatic Scale Corp., Norfolk Downs, Mass.
Scientific Filter Co., 1 Franklin Sq., N.Y.
Triangle Package Machy. Co., 910 N. Spaulding Ave., Chicago

CAPPING MATERIALS

Du Pont Cellophane Co., 2 Park Ave., N.Y.
Ferdinand Gutmann & Co., 3611 14th Ave., Brooklyn
Sylvania Industrial Corp., Chanin Bldg., N.Y.

CAPS (Molded)

Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork & Insulation Co., Lancaster, Pa.
Bakelite Corp., Bound Brook, N. J.
General Plastics, Inc., N. Tonawanda, N.Y.
Owens-Illinois Glass Co., Toledo, O.
Resinox Corp., Terre Haute, Ind.
Toledo Synthetic Prods. Co., Toledo, O.

CAPS (Metal)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork & Insulation Co., Lancaster, Pa.
Closure Service Co., Toledo, O.
Crown Cork & Seal Co., Eastern Ave. & Kresson St., Baltimore
Ferdinand Gutmann & Co., 3611 14th Ave., Brooklyn
Kep-Ark. Inc., 412 Boylston St., Boston
National Can Co., 110 E. 42nd St., N.Y.
National Seal Co., 14th Ave. & 37th St., Brooklyn
Owens-Illinois Glass Co., Toledo, O.
Phoenix Metal Cap Co., 244 W. 16th St., Chicago
Williams Sealing Corp., Decatur, Ill.

CARAWAY OIL (see ESSENTIAL OILS)

CARBOLIC ACID, CRUDE (see PHENOL)

CARBON BISULFIDE
(see also Dealers)

Dow Chemical Co., Midland, Mich.,
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.
Warner Chemical Co., 405 Lexington Ave., N.Y.

CARBON TETRACHLORIDE
(see also Dealers)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Brown Co., Portland, Me.
Diamond Alkali Corp., 436 7th Ave., Pittsburgh
Dow Chemical Co., Midland, Mich.,
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Niagara Smelting Corp., Niagara Falls, N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.
Warner Chemical Co., 405 Lexington Ave., N.Y.

CARNAUBA WAX (see WAXES)

CARTON HANDLING SYSTEM
Self-Lifting Piano Truck Co., Findlay, Ohio

CARTON LINING MACHINES (see LINING MACHINERY)

CARTON SEALING MACHINERY (see SEALING MACHINERY)

CARTONING MACHINERY

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
Johnson Automatic Sealer Co., Battle Creek, Mich.
R. A. Jones & Co., Cincinnati, O.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chic. (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Stokes & Smith Co., 4915 Summerdale Ave. Phila., Pa.
Triangle Package Machinery Co., 906 N. Spaulding Ave., Chicago

CARTONS (Display and Knock Down)

Alderman-Fairchild Co., Rochester, N. Y.
F. N. Burt Co., 540 Seneca St., Buffalo, N.Y.
Consolidated Paper Co., Monroe, Mich.
Robert Gair Co., 155 E. 44th St., N. Y.
Nevins-Church Co., 250 Park Ave., N.Y.
New England Card & Paper Co., Springfield, Mass.
Pictorial Package Co., Aurora, Ill.
Randolph Box & Label Co., 843 W. Van Buren St., Chicago
W. C. Ritchie & Co., 8855 S. Baltimore Ave., Chicago
Robertson Paper Box Co., Inc., Montville, Conn.
George Schmitt & Co., Grand & Florence Sts., Brooklyn
Sutherland Paper Co., Kalamazoo, Mich.
U. S. Printing & Lithographing Co., Cincinnati, O.

CASE SEALING MACHINERY (see SEALING MACHINERY)

CASEIN

American-British Chem., Supplies, Inc., 180 Madison Ave., N.Y.
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Land-o-Lakes Creameries, Minneapolis
National Casein Co., 603 W. 80th St., Chicago
Paper Makers Chemical Corp., Kalamazoo, Mich.

CASES (Fibre) see BOXES, CANS (Fibre)

CASES (Corrugated) see BOXES

CASSIA OIL (see ESSENTIAL OILS)

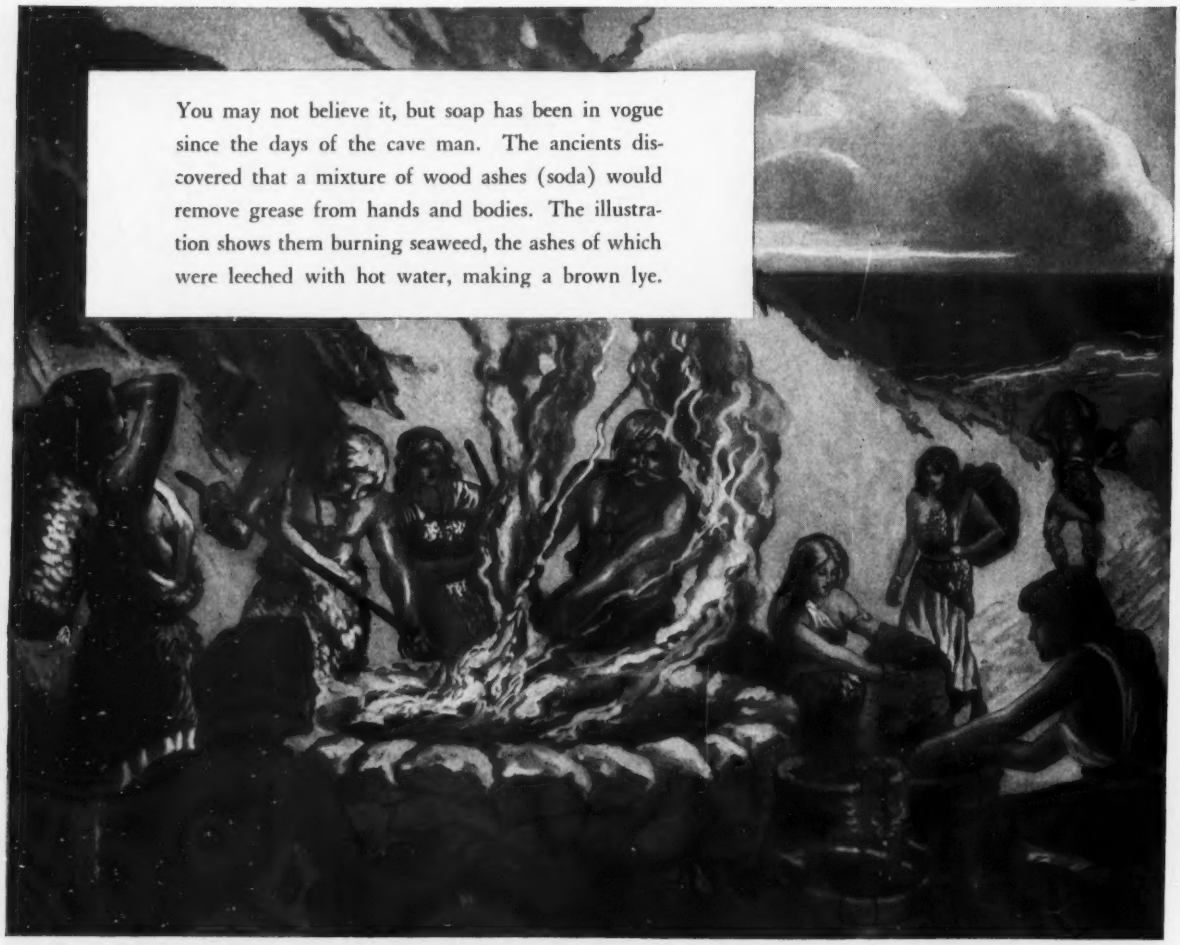
CASTILE SOAP

Armour Soap Wks., 1355 W. 31st St., Chicago
Cincinnati Soap Co., Cincinnati
Conti Products Corp., 155 Varick St., N.Y.
Kranich Soap Co., 54 Richards St., Brooklyn
Leghorn Trading Co., 155 E. 44th St., N.Y.
Lockwood-Brackett Co., Waltham Station, Boston
Los Angeles Soap Co., Los Angeles, Calif.
Newell Gutradt Co., 350 Fremont St. San Francisco, Calif.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Augusto Pollitzer, Trieste, Italy
Procter & Gamble Co., Ivorydale, O.
John T. Stanley Co., 642 W. 30th St., N.Y.
Allen B. Wristley Co., 6801 W. 65th St., Chicago

CASTILE SOAP, LIQUID

Antisept-ol Co., 5524 Northwest Highway, Chicago
Baums Castorine Co., 200 Matthew St., Rome, N.Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.

COLUMBIA


You may not believe it, but soap has been in vogue since the days of the cave man. The ancients discovered that a mixture of wood ashes (soda) would remove grease from hands and bodies. The illustration shows them burning seaweed, the ashes of which were leeched with hot water, making a brown lye.

CAUSTIC SODA

LIQUID 50% NaOH and 70% NaOH

SOLID FLAKE GROUND and POWDERED
98 - 100% NaOH

38 Years of Service to the Soap Industry

Consult our Technical Service Department

Also
SODA ASH
SODIUM BICARBONATE
MODIFIED SODAS
LIQUID CHLORINE
CALCIUM CHLORIDE

THE COLUMBIA ALKALI CORPORATION

BARBERTON • OHIO

NEW YORK CHICAGO BOSTON PITTSBURGH
CLEVELAND CINCINNATI ST. LOUIS MINNEAPOLIS

CASTILE SOAP, LIQUID (Cont'd.)

Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Hunt Mfg. Co., Lisbon Rd., Cleveland
Kranich Soap Co., 54 Richards St., Brooklyn
Moore Bros., Co., 200 Hudson St., N.Y.
Palmer Products, Inc., Waukesha, Wisc.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N.Y.
U. S. Sanitary Spec. Corp., 435 S. Western Ave., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTOR OIL
(see also Dealers)

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 120 Broadway, N.Y.
Balfour, Guthrie & Co., 67 Wall St., N.Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
Otto A. C. Hagen Co., 929 Public Ledger Bldg., Phila.
National Oil Products Co., Harrison, N. J.
Spencer Kellogg & Sons, Buffalo, N.Y.
Snow Brokerage Co., 21 West St., N.Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.

CATTLE DIPS AND SPRAYS
(see also Sheep Dips)

An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Baird & McGuire, Holbrook, Mass.
Barrett Co., 40 Rector St., N.Y.
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 2526 W. Congress St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
General Chem. Co., 40 Rector St., N.Y.
Globe Sanitary Supply Co., 2249 E. 38th St., Los Angeles
James Good, Inc., Kensington, Phila.
Goulard & Olena, 140 Liberty St., N.Y.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Hockwald Chem. Co., 30 Bluxome St., San Francisco
Hunt Mfg. Co., Lisbon Rd., Cleveland
William E. Jordan & Bros., 2590 Atlantic Ave., Brooklyn
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
McLaughlin, Gormley King Co., Minneapolis, Minn.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prod. Co., 522-40 N. 2nd St., St. Louis
Shores Co., Cedar Rapids, Ia.
Standard Oil Co. (Ohio) Midland Bldg., Cleveland
Thompson-Hayward Chem. Co., Des Moines
Tobacco By-Products & Chem. Corp., Louisville, Ky.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Robert C. White Co., Falls of Schuylkill, Phila.
White Tar Co., Kearny, N.J.

CATTLE SPRAY BASE (see PETROLEUM BASES)

CAUSTIC POTASH (see POTASH, CAUSTIC)

CAUSTIC SODA
(see also Dealers)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Belle Alkali Co., Belle, W. Va.
Brown Company, Portland, Me.
Champion Fibre Co., Canton, N. C.
Columbia Alkali Corp., Barberton, Ohio
Diamond Alkali Co., 436 7th Ave., Pittsburgh
Dow Chemical Co., Midland, Mich.,
Great Western Electrochemical Co., San Francisco
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Kimberle-Clark Paper Co., Neenah, Wis.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Michigan Alkali Co., 60 E. 42nd St., N.Y.
Michigan Electrochemical Co., Menominee, Mich.
Niagara Alkali Co., 9 E. 41st St., N.Y.
Niagara Smelting Corp., Niagara Falls, N.Y.
Oxford Paper Co., White Mountains, N.H.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.
Warner Chemical Co., 405 Lexington Ave., N.Y.

CEDAR LEAF OIL (see ESSENTIAL OILS)

CEDARWOOD OIL (see ESSENTIAL OILS)

CERESIN WAX (see WAXES)

CHALK (Calcium Carbonate)

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
H. J. Baker & Bro., 271 Madison Ave., N.Y.
Binney & Smith Co., 41 E. 42nd St., N.Y.
Charles B. Chrystal Co., 11 Park Pl., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Fezandie & Sperrle, 205 Fulton St., N.Y.
E. Fougera & Co., 41 Maiden Lane, N.Y.
Goris & Arnstein, 37th & Racine Ave., Chicago
K. F. Griffiths Co., 110 E. 42nd St., N.Y.
Hammill & Gillespie, 225 Broadway, N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Tamms Silica Co., 228 N. LaSalle St., Chicago
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

CHAMOIS

Addison Sponge Co., 118 E. Court St., Cincinnati
Allied Industrial Prods. Co., 17 N. Elizabeth St., Chicago
Amer. Sponge & Chamois Co., 47 Ann St., N.Y.
Atlas Sponge Co., 291 Church St., N.Y.
Great Eastern Sponge & Chamois Co., 833 N. Patt. Pk. Ave., Baltimore
Jos. Niehaus Co., 341 W. 4th St., Cincinnati
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Schroeder & Tremayne, 500 N. Coml. St., St. Louis

CHIPPERS (see SOAP MACHINERY)

CHIP SOAPS (Including Flakes)

Armour Soap Wks., 1355 W. 31st St., Chicago
Cincinnati Soap Co., 7th & Elm Sts., Cincinnati
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Du Bois Soap Co., Cincinnati, Ohio
Hewitt Soap Co., Dayton, Ohio
Holbrook Mfg. Co., Cole & 18th Sts., Jersey City
J. D. Lee Soap Co., P. O. Box 1612, Denver
Lever Bros. Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Milling & Chem. Co., Manayunk, Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Peck's Products Co., St. Louis, Mo.
Procter & Gamble Co., Cincinnati
Geo. Schmidt Co., 236 W. North Ave., Chicago, Ill.
John T. Stanley Co., 642 W. 30th St., N.Y.
Swift & Co., Union Stock Yards, Chicago
Warren Soap Mfg. Co., 51 Warren St., Cambridge, Mass.
M. Werk Co., Cincinnati
Chas. W. Young & Co., Phila.

CHILLING ROLLS

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machy Co., Hawthorne, N.J.
Huber Machine Co., 259—46th St., Brooklyn
J. M. Lehmann Co., 248 W. Broadway, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

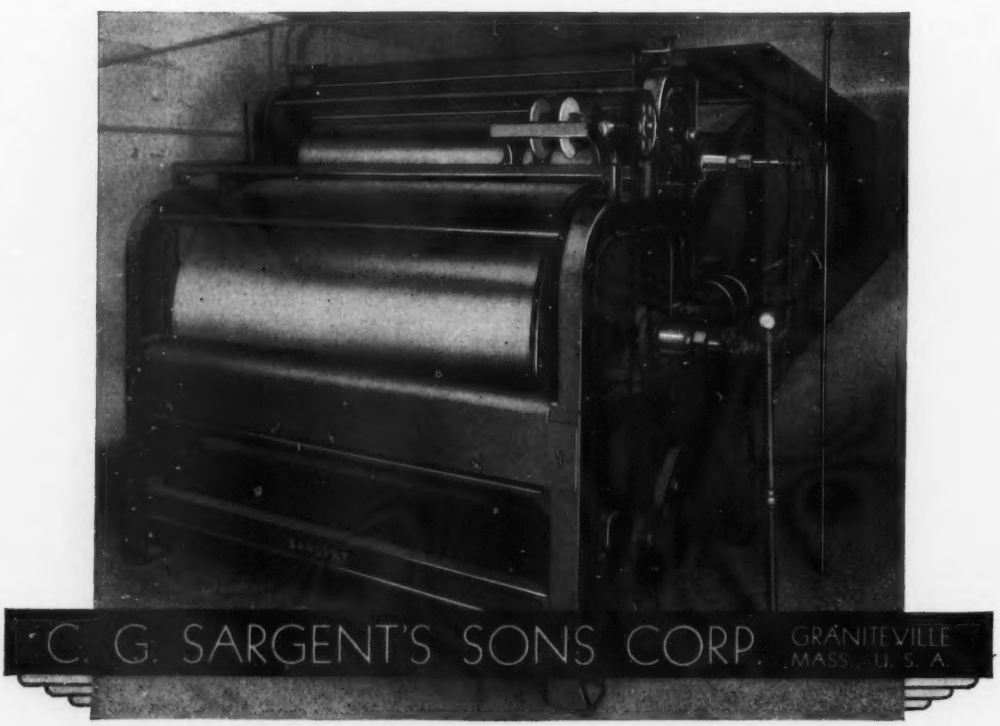
SARGENT . . . Presents a NEW Soap Chilling Roll and Drying Machine

AS the title indicates, the Rolls are NEW and the entire machine is NEW, many valuable improvements having been perfected until this latest Sargent development is now one of the very finest Rolls obtainable.

To the soap manufacturer, the most important angle is to have a *thin, uniform chip* . . . readily accomplished by these new Rolls being expertly machined, ground and set. Finest grade of cast iron. Vari-speed controls on both Rolls insures easy adjustment . . . every part accessible.

Drive improvements reduce the horsepower used. Changes made at a minute's notice. The Dryer is entirely re-designed. Its housing gives better insulation and cuts down steam consumption per hour. Other valuable changes have been made in the circulating and exhaust air systems . . . and all *fans* are *direct motor driven.*

All the features stated above assure increased production and uniform quality!



CHILLING ROLLS, (Cont'd)

Proctor &Schwartz, 7th St. & Tabor Rd. Philadelphia
C. G. Sargent's Sons Corp., Graniteville, Mass.
F. J. Stokes Machine Co., 5974 E. Tabor Rd., Phila.

CHLORIDE OF LIME (see BLEACHING POWDER)

CHLORINE

American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Columbia Alkali Corp., Barberton, Ohio
Diamond Alkali Co., First Nat'l Bk. Bldg., Pittsburgh, Pa.
Electro Bleaching Gas Co., 9 E. 41st St., N.Y.
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Niagara Alkali Co., 9 E. 41st St., N.Y.
Pennsylvania Salt Mfg. Co., Widener Bldg., Phila.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.
Warner Chemical Co., 405 Lexington Ave., N.Y.

CHLORINE DISINFECTANTS (see DISINFECTANTS)

CHLOROFORM

Brown Company, Portland, Me.
Dow Chemical Co., Midland, Mich.,
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Malinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Niagara Smelting Corp., Niagara Falls, N. Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Stauffer Chem. Co., 420 Lexington Ave., N.Y.

CHLOROPHYLL (see also ESSENTIAL OILS)

American Chlorophyll, Inc., 570 Lexington Ave., N.Y.
A. C. Drury & Co., 219 E. North Water St., Chicago
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Interstate Color Co., 5 Beekman St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Krembs & Co., 669 W. Ohio St., Chicago
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, 350 5th Ave., N.Y.
R. J. Prentiss & Co., 100 Gold St., N.Y.
Pylam Products Co., 799 Greenwich St., N.Y.
Sandoz Chem. Works, Inc., 61 Van Dam St., N.Y.
Schimmel & Co., 601 W. 26th St., N.Y.
Edwin Seebach Co., 912 Broadway, N.Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.

CITRAL (see AROMATIC CHEMICALS)

CITRONELLAL (see AROMATIC CHEMICALS)

CITRONELLA OIL (see ESSENTIAL OILS)

CITRONELLOL (see AROMATIC CHEMICALS)

CLAYS

American Colloid Co., 363 W. Superior St., Chicago
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Chas. B. Chrystal Co., 11 Park Pl., N.Y.
Dicalite Co., 120 Wall St., N.Y.
A. C. Drury & Co., 219 E. N. Water St., Chicago.
Fezandie & Sperrle, 205 Fulton St., N.Y.
Goris & Arnstein, 37th & Racine Ave., Chicago
Hammil & Gillespie, 225 Broadway, N.Y.
J. M. Huber, Inc., 460 W. 34th St., N.Y.
Illinois Silica Co., Cairo, Ill.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
International Silica Co., Cairo, Ill.
Natural Products Co., 307 W. 8th St., Los Angeles
National Sales Corp., 33 E. 13th St., Cincinnati
Owyhee Chemical Products Co., 300 W. Adams St. Chicago
Paper Makers Chemical Corp., Kalamazoo, Mich.
Peerless Clay & Mineral Co., Pueblo, Colo.
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Tamms Silica Co,. 228 N. LaSalle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N.J.
Whittaker, Clark & Daniels, 260 W. Broadway, N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.
Wyodak Chem. Co., 4600 E. 71st St., Cleveland

CLEANERS, LIQUID

American Chemical Paint Co., Ambler, Pa.
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Davies-Young Soap Co., Dayton, O.
Delta Chemical Co., 1815 Riverside Drive, N.Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
R. M. Hollingshead, 840 Cooper St., Camden, N.J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
La Maison Prods. Inc., So. York St., Brooklyn, N.Y.
Midway Chemical Co., 5235 W. 65th St., Chicago
Peck's Products Co., St. Louis, Mo.
Solshine Mfg. Co., 17 Caldwell St., Boston
Trojan Prods. & Mfg. Co., 3107 S. Wabash Ave., Chicago
Palmer Products, Inc., Waukesa, Wisc.
White Tar Co., Kearny, N.J.

CLEANING COMPOUNDS, DRY

American Chemical Paint Co., Ambler, Pa.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Cary Mfg. Co., Joliet, Ill.
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chem. Co., 247 Front St., N.Y.
Columbia Alkali Corp., Barberton, Ohio
Columbia Soap & Chem. Co., Inc., 217-221 Clara St., San Francisco
Crystal Labs., Inc., 21 W. Park Way, N. E., Pittsburgh
Cudahy Packing Co., 221 N. LaSalle St., Chicago
Davies-Young Soap Co., Dayton, O
Delta Chemical Co., 1815 Riverside Drive, N.Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Globe Sanitary Supply Co., 2249 E. 38th St., Los Angeles
James Good, Inc., Kensington, Phila.
Goulard & Olena, Inc., 140 Liberty St., N.Y.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Hockwald Chem. Co., 30 Bluxome St., San Francisco
R. M. Hollingshead, 840 Cooper St., Camden, N.J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hull Co., 305 Washington St., Brooklyn
Hunt Mfg. Co., Lisbon Rd., Cleveland
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Los Angeles Soap Co., Los Angeles, Calif.
Mechling Bros. Chemical Co., Camden, N.J.
Midway Chemical Co., 5235 W. 65th St., Chicago
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Pacific Chem. Co., 1421 N. Main St., Los Angeles
Palmer Products, Inc., Waukesha, Wis.
Paper Makers Chemical Corp., Kalamazoo, Mich.
Peck's Prod. Co., 522-40 N. 2nd St., St. Louis
Philadelphia Quartz Co., 125 S. 3rd St., Phila.
Procter & Gamble Co., Ivorydale, O.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Solshine Mfg. Co., 44 Brookline St., Boston
Solvay Sales Corp., 40 Rector St., N.Y.
Standard Silicate Div., Diamond Alkali Co., 1622 Koppers Bldg., Pittsburgh
Stevens Soap Corp., 200 Sullivan St., Brooklyn
John Sunshine Chem. Co., 604 W. Lake St., Chicago
Trojan Prods. & Mfg. Co., 3107 S. Wabash Ave., Chicago
United Cleanser Mfg. Co., Cambridge, Mass.
V. C. Products Co., Philadelphia
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.

BARRETT CHEMICALS FOR THE SOAP AND DISINFECTANT INDUSTRY

BARRETT CHEMICALS

FOR THE SOAP and DISINFECTANT INDUSTRY

CRESOL U. S. P.

Cresol compound prepared from Barrett Cresol U. S. P. contains less than 5% Phenol, and falls well within the limitations of the Federal Caustic Poisons Act.

META PARA CRESOL

Standard grades have boiling ranges of 3°C. and 6°C. with Meta Cresol content 55% and 52% minimum, respectively. Closer boiling fractions may be supplied as required.

SPECIAL CRESOLS

Special fractions are supplied to meet user's specifications.

TAR ACID OILS, 10%-75%

Carefully blended oils ranging in tar acid content from 10% to 75%.

CRESYLIC ACIDS

Ninety-nine per cent and 95% grades of various distillation ranges, depending upon requirements.

PHENOL U. S. P.

Pure White Crystalline product, 40°C. minimum melting point.

HYDROCARBON OIL

A neutral coal-tar oil for high coefficient disinfectants.

BENZOL, Pure and 90%, TOLUOL, XYLOL, SOLVENT NAPHTHA, HI FLASH SOLVENT and other water white distillates of Coal Tar.

BENZOL

Pure and 90%, TOLUOL, XYLOL, SOLVENT NAPHTHA, HI FLASH SOLVENT and other water white distillates of Coal Tar.

DIP OILS

A coal tar base for animal dips and disinfectant purposes.

Barrett CHEMICALS

THE BARRETT COMPANY 40 Rector St., New York, N. Y.

Barrett Specification Roofs and other Built-up Roofs . . . Barrett Shingles and Roll Roofing . . . Roof Repair Materials and Protective Paints . . . Waterproofings . . . Damp-proofings . . . Rock Wool Insulations . . . Tarvia, and Tarvia-lithic, for road construction, repair and maintenance . . . Creosote Oil . . . Pipe Line Coatings . . . Coal Tar Chemicals and Solvents . . . Anhydrous Ammonia for refrigeration . . . Domestic Sulphate of Ammonia . . . Arcadian,* the American Nitrate of Soda, for use in agriculture and industry.

*Trade mark Reg. U. S. Pat. Off.

CLEANING FLUIDS (Spotting Fluids)

Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chem. Co., 247 Front St., N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Phila.
Hubman Supply Co.. 225 N. 4th St., Columbus, O.
La Maison Prods. Inc., So. York St., Brooklyn, N.Y.
McKesson & Robbins, Bridgeport, Conn.
Merck & Co., Rahway, N.J.
Midway Chemical Co., 5235 W. 65th St., Chicago
Moore Bros. Co., 200 Hudson St., N.Y.
Newerking Cleaning Fluid Co., 125 W. 33rd St., N.Y.
Palmer Products, Inc., Waukesha, Wis.
Standard Oil Co. (Ind.) 910 S. Michigan Ave., Chicago
Trojan Prods. & Mfg. Co., 3107 S. Wabash Ave., Chicago
Uncle Sam Chem. Co., 329 E. 29th St., N.Y.

CLIPS (for Collapsible Tubes) (see also TUBES, COLLAPSIBLE)

Acme Clip & Mfg. Co., 426 S. Clinton St., Chicago
George G. Rodgers Co., 183 Varick St., N.Y.

CLOSURES (see CAPS, CORKS, etc.)

CLOVE OIL (see ESSENTIAL OILS)

COAL TAR DISINFECTANTS (see DISINFECTANTS)

COAL TAR RAW MATERIALS

American-British Chem. Supplies, 180 Madison Ave., N.Y.
American Cynamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Baird & McGuire, Holbrook, Mass.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
T. G. Cooper & Co., 47 6. 2nd St., Phila.
Barrett Co., 40 Rector St., N.Y.
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Innis, Speiden & Co., 117 Liberty St., N.Y.
William E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
Neville Co., Pittsburgh, Pa.
Reilly Tar & Chemical Co., Indianapolis
Republic Chemical Co., 94 Beekman St., N.Y.
White Tar Co., Kearny, N.J

COCOA BUTTER

Walter Baker & Co., 159 Franklin St., N.Y.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Spencer Kellogg & Sons, Buffalo, N.Y.
R. F. Revson Co., 91 7th Ave., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
A. N. Stollwerck Co., Camden, N.J.

COCONUT OIL
(see also Brokers and Dealers)

Atkins, Kroll & Co., 250 California St., San Francisco
Balfour, Guthrie & Co., 67 Wall St., N.Y.
Best Foods, Inc., 88 Lexington Ave., N.Y.
Capital City Products Co., Columbus, O.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Eastern Industries, Inc., Ridgefield, N.J.
El Dorado Oil Wks., 230 California St., San Francisco
Franklin Baker Co., 1500 Bloomfield St., Hoboken, N.J.
Spencer Kellogg & Sons, Buffalo, N.Y.
Los Angeles Soap Co., Los Angeles, Calif.
Philippine Mfg. Co., 244 Calle David, Manila, P. I.
J. H. Redding Co., 17 Battery Pl., N.Y.
Snow Brokerage Co., 21 West St., N.Y.
A. E. Starkie Co., 1645 S. Kilburn Ave., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

COCONUT OIL SOAPS (Hard Water Bar)

Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
James Counts Soap Co., 2nd & Washington Aves., St. Louis
Cudahy Packing Co., 221 N. LaSalle St., Chicago
Davies-Young Soap Co., Dayton, O.

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PUT THIS ONE IN ITS PLACE IN YOUR DESK . . . THE 1937 **BLUE BOOK** IS NOW OUT-OF-DATE . . . OBSOLETE . . . CONTAINS ADDRESSES WHICH HAVE SINCE BEEN CHANGED . . . AND OTHER INFORMATION WHICH WAS NEW A YEAR AGO . . . BUT IS NOW OLD . . . AND POSSIBLY WRONG DISCARD THAT OLD 1937 EDITION **NOW!** USE THIS 1938 EDITION FROM NOW ON.

THE PUBLISHERS.

Come To Headquarters For Soap & Cosmetic Colors

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National Soap Co., 357 South 25th St., Tacoma, Wash.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
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Pacific Chem. Co., 1421 N. Main St., Los Angeles
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Peck's Prod. Co., 522-40 N. 2nd St., St. Louis
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Interstate Color Co., 5 Beekman St., N.Y.
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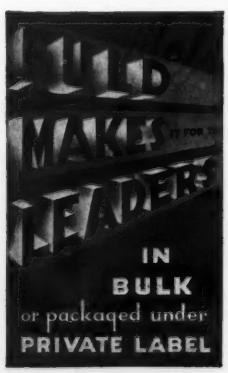

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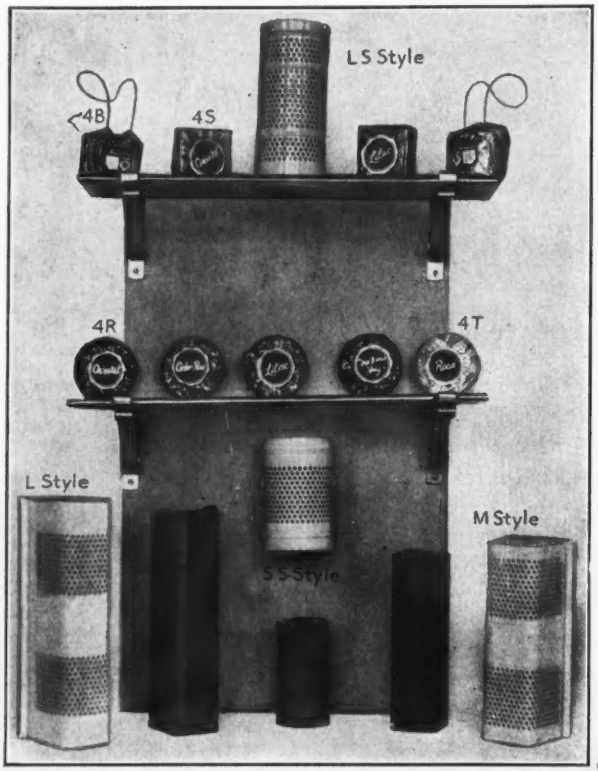

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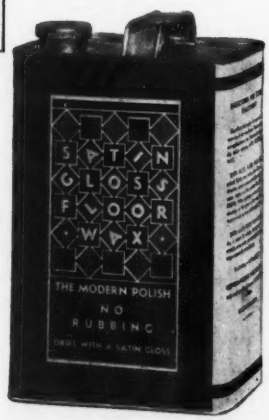

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North Coast Soap & Chem. Wks., Seattle, Wash.
Palmer Products Inc., Waukesha, Wis.
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Puritan Chemical Co., Atlanta Ga.
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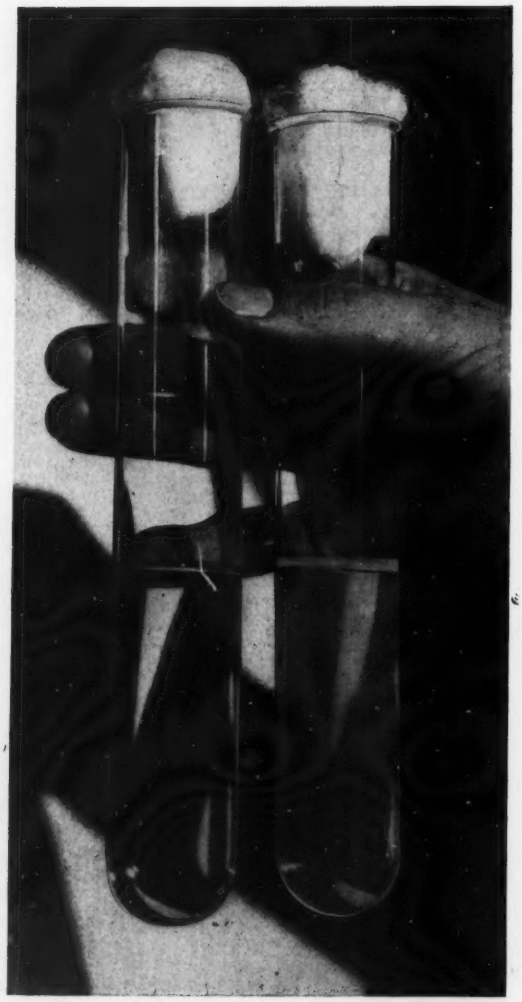

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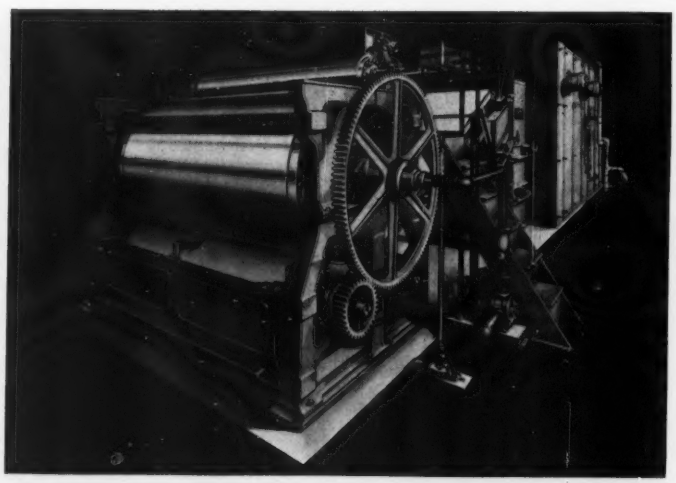

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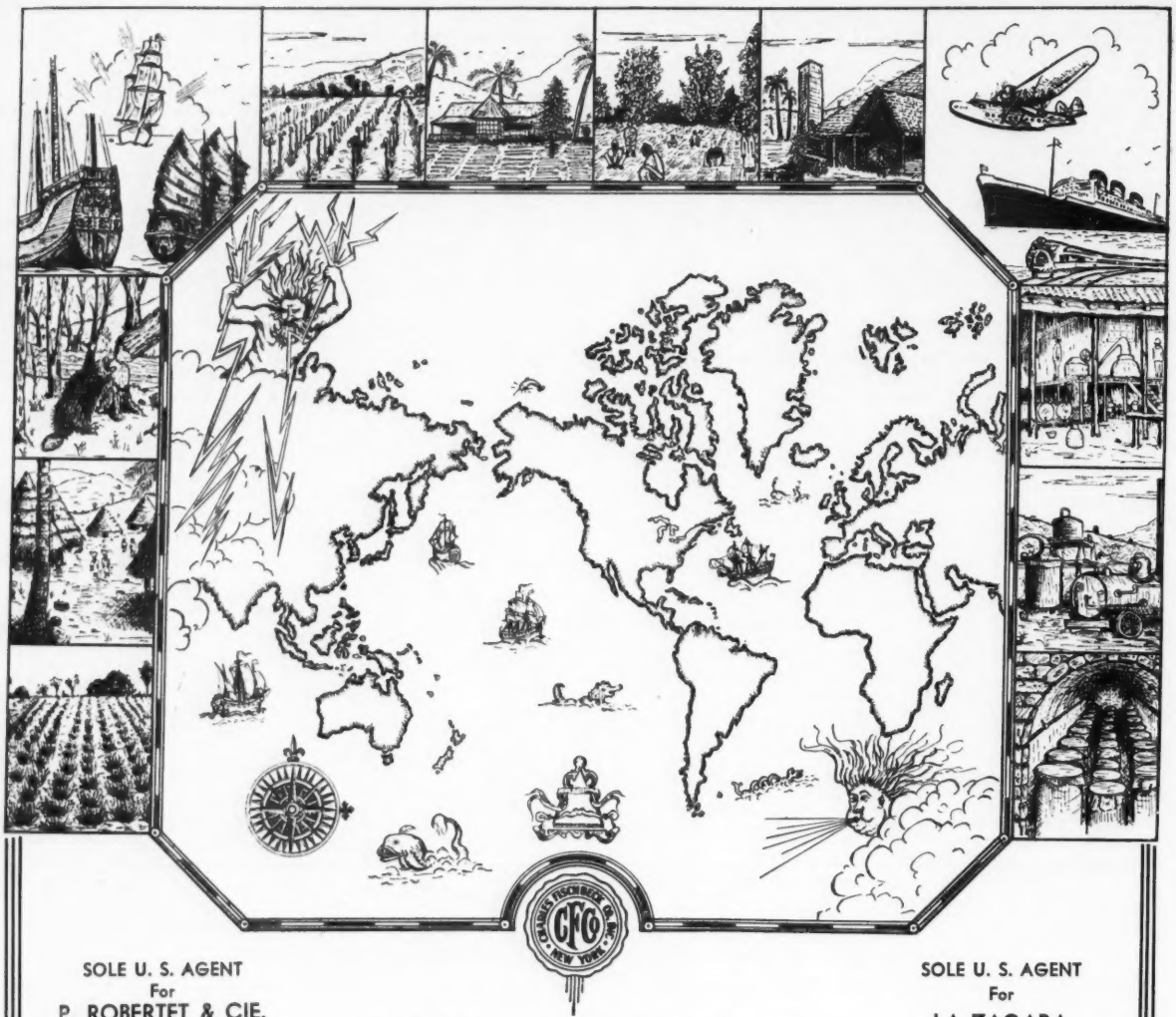

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FELDSPAR (See ABRASIVES AND FILLERS)

FIBRE CASES (see BOXES, FIBRE)

FIBRE CANS (see CANS, FIBRE)

FILLERS (see TALC, BENTONITE, CLAYS, ETC.)

FILLING MACHINERY (Flakes)

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
B. F. Gump Co., 431 S. Clinton St., Chicago (Bbls. & Bags)
S. Howes Co., Silver Creek, N.Y. (Bbls.)
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
Stokes & Smith Co., 4915 Summerdale Ave., Philadelphia
Triangle Package Machinery Co., 906 N. Spaulding Ave., Chicago

FILLING MACHINERY (Liquids, Bottles)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)

PACKAGING MACHINERY
for Dry Products

●

Unit Machines for CARTON

Feeding — Forming
Sealing — Lining
Filling — Weighing
Closing — Wrapping

Combination Machines for CARTON

Feeding and Forming
and Sealing and Lining
and Filling and Closing

Unit Machines for BAG—CAN—CANISTER

Filling — Packing
Weighing

●

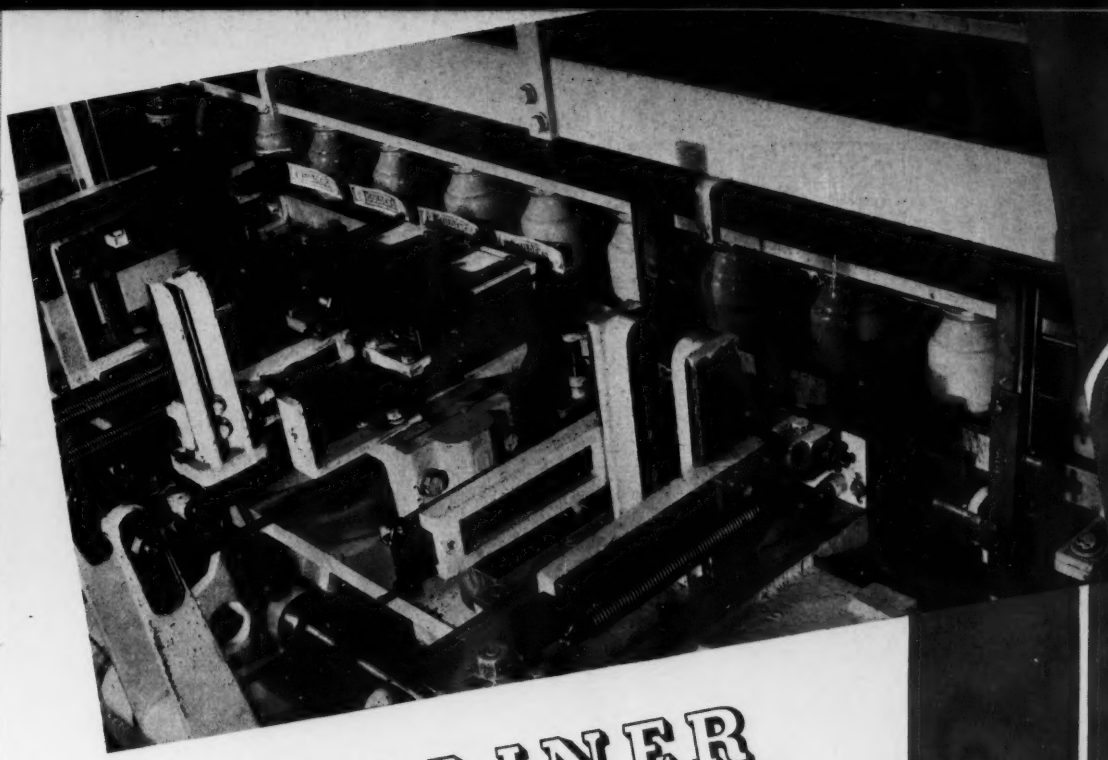
Speeds ranging from 5 to 105 per minute

LOWER COST per

Pneumatic packaging and bottling equipment is built to give you "lower cost per container" operation. More substantial construction, more flexible design, more accurate machining, advanced engineering—all of these things guarantee smoother operation, lower maintenance cost, slower depreciation and greater versatility that prevents obsolescence! That is why the leaders in all packaging fields consider it economy to use Pneumatic equipment. Pneumatic's widespread acceptance is indicated by the following partial list of its customers in diversified lines:

SOAP POWDER—FLAKES & CHIPS

Armour & Co., Fels & Co., Procter & Gamble Mfg. Co., Colgate-Palmolive-Peet Co., Hecker Products Corp., Thos. Hedley & Co., Ltd., Iowa Soap Co., Co-operative Wholesale Society, A. B. Wrisley Co., Manhattan Soap Co., J. R. Watkins Co., Oakite Products, Inc., Los Angeles Soap Co.



CONTAINER

INSECTICIDES & POLISHES

McCormick & Co., J. A. Tumbler Lab., Griffin Mfg. Co., Black Flag Co., Whittemore Bros. Corp., Standard Oil Co., Wilbert Products Corp., McAleer Mfg. Co., West Disinfecting Co., American Oil Co., C. H. Stuart Co., Emulso Corporation, O'Cedar Corporation, Farboil Paint Co.

TOILET GOODS & COSMETICS

Wildroot Co., Lady Esther, Andrew Jergens Co., Campana Corp., T. Noonan & Sons Co., United Drug Co., Walgreen Co., Bristol Myers Co., F. W. Fitch Co., Daggett & Ramsdell Co., Max Factor & Co., Pacquin Laboratories, R. L. Watkins, Nelson Baker Co.

PNEUMATIC SCALE CORP., LTD.

73 Newport Avenue, Quincy, Mass. (Norfolk Downs Station)

Branch Offices in New York; Chicago; San Francisco; Los Angeles; Leeds, England; Paris; Melbourne; Sidney, N. S. W.; Wellington and Buenos Aires

BOTTLING EQUIPMENT

for Liquids and Semi-Liquids

●

Unit Machines for BOTTLE—JAR

Cleaning — Filling

Capping — Labeling

Combination Units for BOTTLE—JAR

Cleaning and Filling

Unit Machines for CAN

Filling

Capping

Labeling

●

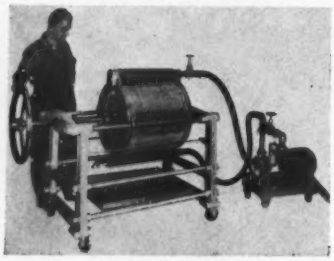
Speeds ranging from 5 to 125 per minute

ERTEL ENGINEERING CORPORATION

LIQUID HANDLING EQUIPMENT

120 EAST 16th STREET
Cable Address: "Ertelencor"

NEW YORK, N. Y.
Telephone: STuyvesant 9-3066



EX Model Filter

PRODUCTS

Asbestos Disk Filters, Neutral Asbestos Filter Sheets, Pre-Filters, Three-Way Multiple Filters, Stainless Steel and Glass-Lined Tanks (open or closed), Portable and Semi-Automatic Vacuum Bottle Fillers (with or without conveyor), Portable Electrical Mixers, Portable Pumps, Cappers.

USES

Filters: Clarifying, polishing and germproofing any type of liquid.

Tanks: For storing or mixing liquids.

Bottle Fillers: 3, 8 or 12 spout fillers for the rapid filling of liquids.

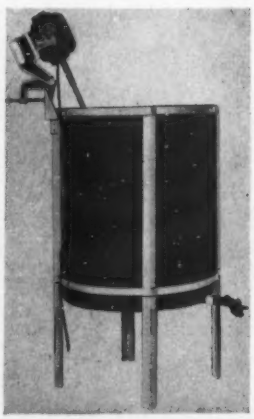
Portable Mixers: For mixing heavy and light liquids.

Portable Pumps: For transferring liquids from tank to tank.

Cappers: Hand operated. Will handle caps up to 42 mm.

TANKS

Ertel Glass Lined Tanks, built in sizes from 15 to 350 gallons, and Ertel Stainless Steel Tanks, built from 15 to 1,000 gallons, are acid resistant.



Glass Lined Tank and Mixer

Capper

ERTEL HAND CAPPER

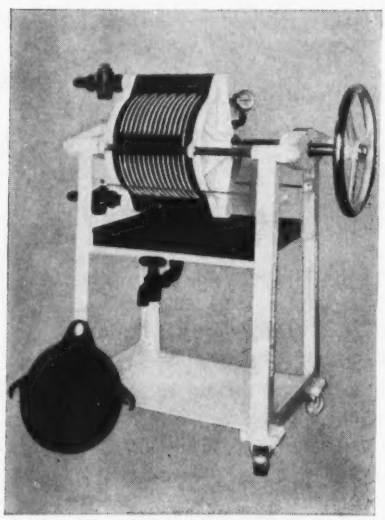
Now on the market for two years and being used in many of the largest houses in the United States. Will handle caps up to 42 mm. Send sample of cap when ordering.

THE ERTEL HARD RUBBER ASBESTOS DISK FILTER

To be used on liquids containing acids which cannot come in contact with metal, thereby doing away with the danger of contamination.

The construction of the filter in its general principle is similar to the well known Ertel bronze asbestos disk filters thereby working on the same principles with the use of the well known Ertel neutral asbestos filter sheets.

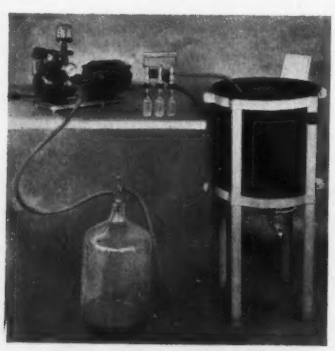
Built in various sizes to handle from 5 to 30 gallons per minute.



Hard Rubber Filter

MIXERS

The Ertel Portable Mixers are furnished in all sizes and for any purpose. Scientifically designed, accurately balanced, they are light, easy to handle and are always ready for instant service. The handy grip, an exclusive feature of the Ertel mixer, makes it truly portable.



Portable Vacuum Bottle Filler

Representatives in Boston, Chicago, St. Louis, Louisville, Baltimore, Los Angeles, San Francisco, Seattle, Montreal, Canada, San Juan, P. R., London, England

FILLING MACHINERY (Liquids, Bottles) (Cont'd)

Ertel Engineering Corp., 120 E. 16th St., N.Y.
Karl Kiefer Machine Co., Cincinnati
Newman Tallow & Coap Machy. Co., 1052 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
Scientific Filter Co., 1 Franklin Sq., N.Y.
U. S. Bottlers Machinery Co., 4025 N. Rockwell St., Chicago
Vol-U-Meter Co., 707 Ohio St., Buffalo

FILLING MACHINERY (Liquids, Cans)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Horix Mfg. Co., Corliss Station, Pittsburgh
Karl Kiefer Machine Co., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
Scientific Filter Co., 1 Franklin Sq., N.Y.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
U. S. Bottlers Machinery Co., 4025 N. Rockwell St., Chicago
The Vol-U-Meter Co., 707 Ohio St., Buffalo, N.Y.

FILLING MACHINERY Liquids, Drums)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
National Acme Co., E. 131st St., & Coit Ave., Cleveland
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Scientific Filter Co., 1 Franklin Sq., N.Y.
The Vol-U-Meter Co., 707 Ohio St., Buffalo, N.Y.

FILLING MACHINERY (Pastes, Cans)

Consolidated Prods. Co., 15 Park Row, N.Y. Used
J. L. Ferguson Co., Joliet, Ill.
Filler Machine Co., 1250 E. Montgomery St., Philadelphia
Karl Kiefer Machine Co., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Progressive Eng. Co., Torresdale, Pa.
Scientific Filter Co., 1 Franklin Sq., N.Y.
C. T. Small Mfg. Co., 1204 Ferguson Ave., St. Louis, Mo.
Sprague-Sells Corp., 308 W. Washington St., Chicago
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
Triangle Package Mchy. Co., 910 N. Spaulding Ave., Chicago
Vol-U-Meter Co., 707 Ohio St., Buffalo, N.Y.

FILLING MACHINERY (Pastes, Drums)

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

FILLING MACHINERY (Pastes, Tubes)

Arthur Colton Co., Detroit, Mich.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Karl Kiefer Machine Co., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia

FILLING MACHINERY (Powders)

Consolidated Package Machinery Corp., 1400 West Ave., Buffalo, N.Y.
Consolidated Prods. Co., 15 Park Row ,N. Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
J. L. Ferguson Co., Joliet, Ill.
B. F. Gump Co., 431 S. Clinton St., Chicago
S. Howes Co., Silver Creek, N.Y. (Bbls.)
Johnson Automatic Sealer Co., Battle Creek, Mich.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
F. J. Stokes Mach. Co., 5918 Tabor Rd., Philadelphia
Triangle Package Machinery Co., 906 N. Spaulding Ave., Chicago

FILTER CLOTHS

Abbott Associates, 417 Park Sq. Bldg., Boston
Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Cleveland Wire Cloth & Mfg Co., 3574 E. 78th St., Cleveland
B. F. Gump Co., 431 S. Clinton St., Chicago
Wm. E. Hooper & Sons, Juniper & Cherry Sts., Philadelphia
Independent Filter Press Co., 189—7th St., Brooklyn
National Filter & Cloth Weaving Co., 220 E. 42nd St., N.Y.
Newark Wire Cloth Co., 223 Verona Ave, Newark, N. J.
Oliver United Filters, Inc., 33 W. 42nd St., N.Y.
J. T. Perkins Co., 669 Kent Ave., Brooklyn
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
T. Shriver & Co., Harrison, N. J.
D. R. Sperry & Co., Batavia, Ill.

FILTER PAPER

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
H. Reeve Angel & Co., 7 Spruce St., N.Y.
Aromatic Products, Inc., 15 E. 30th St., N.Y.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago, Ill.
August Giese & Son, 121 E. 24th St., N.Y.
Karl Kiefer Machine Co., Cincinnati, O.
Geo. Lueders & Co., 427 Washington St., N.Y.
Magnus, Mabee & Reynard, 32 Cliff St., N.Y.
Neumann-Buslee & Wolfe, Inc., 224 W. Huron St., Chicago
Orbis Products Corp., 215 Pearl St., N.Y.
Palo Co., 81 Reade St., N.Y.
Scientific Filter Co., 1 Franklin Sq., N.Y.
T. Shriver & Co., Harrison, N. J.

FILTER PRESSES

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Ertel Engineering Corp., 120 E. 16th St., N. Y.
Independent Filter Press Co., 189—7th St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Oliver United Filters, Inc., 33 W. 42nd St., N.Y.
Patterson Foundry & Machine Co., East Liverpool, Ohio
Wm. R. Perrin & Co., 349 W. 23rd St., Chicago
Scientific Filter Co., 1 Franklin Sq., N.Y.
T. Shriver & Co., Harrison, N. J.
D. R. Sperry & Co., Batavia, Ill.
United Filters Corp., Hazelton, Pa.

FILTERS (Special)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Ertel Engineering Corp., 120 E. 16th St., N. Y.
Foster Pump Wks., Inc., 54 Washington St., Brooklyn
Jacob House & Sons, 52 St. Paul St., Buffalo
Karl Kiefer Machine Co., Cincinnati
Lancaster Iron Works, Lancaster, Pa.
Mixing Equipment Co., 1024 Garson Ave., Rochester, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Oliver United Filters, Inc., 33 W. 42nd St., N.Y.
Permutit Co., 330 W. 42nd St., N.Y.
Scientific Filter Co., 1 Franklin Sq., N.Y.
T. Shriver & Co., Harrison, N. J.
U. S. Bottlers Mchy. Co., 4015 N. Rockwell St., Chicago
Whiting Corp., Harvey, Ill.

FIRE EXTINGUISHER FLUID (See CARBON TETRACHLORIDE)

FIRE-PROOFING COMPOUNDS

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Glyco Products Co., 148 Lafayette St., N.Y.
Monsanto Chemical Co., 1724 South Second St., St. Louis
Niacet Chemicals Corp., Niagara Falls, N.Y.
Price Fire & Water Proofing Co., Poughkeepsie, N.Y.
Protexol Corp., 32 Market St., Kenilworth, N.J.
Victor Chemical Works, 141 West Jackson Bldg., Chicago

FEDERAL

Sealers Finishes and Waxes for Every Type of Surface

Federal Floor Preservatives and Polishes are highly perfected products. They are the result of constant research, both in the laboratory and in practical usage. Our entire technical staff has concentrated on the development of these finishes. They are specialized products made by America's largest manufacturer of Preservatives and Polishes selling in bulk.

In this list will be found the entire Federal Line with a quality product for every purpose and every surface.

NO-BURN GYM FINISH

An extremely hard, durable finish that will not rubber-burn on gymnasium floors and also one with such remarkable durability it can be used on all types of interior or exterior surfaces including dance floors, school furniture, desks, seats, etc. Applied with a lamb's-wool mop, applicator or cheesecloth pad.

G. F. B. No. 2

This is No-Burn Gym Finish except made in a standard body for brush application.

G. F. B. No. 3

Is the same remarkably durable finish as No-Burn Gym Finish but intended for use only on surfaces where a hand rubbed finish is desired.

G. F. B. CONCENTRATED BASE COLORS

Highly perfected concentrated color bases for use with No-Burn Gym Finish to impart colors as well as extreme durability on wood, concrete and cement surfaces. Made in Light Oak, Dark Oak, Light Gray, Dark Gray, Walnut, Maroon, Green.

G. F. B. CONCENTRATED ALUMINUM BASE COLOR

A perfected concentrated aluminum base for all types of metal work such as tanks, bridges, pipes, etc., on both inside and outside surfaces.

MOP-VAR

A Penetrating Sealer to be applied with a mop or other applicator. Reduces maintenance and application costs. For wood, concrete, hard mastic or magnesite, cork and cork tile.

LIGHTNING LUSTRE

A no-rub, no-polish wax for rubber tile, soft composition, linoleum, and as a maintenance finish for practically any surface.

VAR-LIN

A preservative and polish combining the hardest waxes of best quality, varnish gums and quick drying solvents. Very durable and practically eliminates the slipping hazard. Polishes to a beautiful, glossy film.

LIQUID OIL BASE WAX

A wax of the oil base type. Applied with a mop or applicator. Buffs and polishes beautifully. A superior product of its type.

TERRAZZO SEALER

The perfect sealer for terrazzo and marble floors. Reduces cost of maintenance. Prevents penetration of dirt.

CHAIN STORE SEALER

This is a highly specialized penetrating sealer for wood floors to meet peculiar conditions and requirements of large organizations operating chain units. Applied by spraying or large lamb's-wool applicator. Forms a hard, durable finish that will not stain merchandise accidentally dropped on it.

RUBBER LACQUER

A superior lacquer developed particularly for use on rubber and rubber tile. Dries rapidly, easily applied and very durable. Will not discolor light shades.

LINOLEUM LACQUER

Specially made for printed, lacquer finished inlaid linoleum and congoleum or Sealex types of linoleum. Dries in 30 minutes, easy to apply and will not cause light, delicate shades to fade or discolor.

GYM FINISH CLEANER AND POLISH

Specially developed for the cleaning of gymnasium floors, hand ball and basket ball courts, etc. Cleans rubber shoe marks and other soiling elements perfectly.

BUFFING WATER WAX

A water wax type of finish developed by our chemists but unlike the self-polishing water waxes, requires buffing to bring out the beauty of finish. Very popular wherever this type of wax is used.

LINOLEUM, RUBBER & TERRAZZO CLEANER

Meets perfectly all requirements for a superior cleaner for these surfaces. Keeps the surface always in proper condition and prevents deterioration.

GYM FINISH MARKING ENAMELS

Another Federal specialized product made for the purpose of marking hand ball courts, basket ball floors, running lanes, etc. Has the remarkable wearing quality of Gym Finish and possesses great covering and hiding power. Made in White, Red, Black.

STREET MARKING OR TRAFFIC PAINT

A rapid drying paint for marking traffic lanes, parking spaces and similar uses. For both inside and outside use. Dries for traffic use in 30 minutes. Has remarkable wearing quality necessary for a product of this kind.

PASTE WOOD FILLERS AND VARNISH REMOVERS

Our laboratories are constantly developing new products and perfecting new methods and treatments for beautifying and preserving all floor surfaces.

Write for complete information, testing samples and prices.

FEDERAL VARNISH COMPANY

337 SO. PEORIA STREET — CHICAGO, ILL.

FISH OILS
(see also Brokers and Dealers)

Atlantic Products Corp., Commercial Trust Bldg., Phila.
Atlas Refinery, Lockwood St., Newark, N. J.
Cook Swan Co., 233 Bway., N.Y.
Falk & Co., Pittsburgh
Harvey & Outerbridge, 250 Park Ave., N.Y.
Murray Oil Products Co., 21 West St., N.Y.
National Oil Prods. Co., Harrison, N. J.
Pacific Vegetable Oil Co., 82 Thompson St., San Francisco
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Southern Menhaden Corp., 350 Madison Ave., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Swan Finch Oil Corp., 205 E. 42nd St., N.Y.

FISH OIL SOAPS

James Good, Inc., Kensington, Philadelphia
National Oil Products Co., Harrison, N. J.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
North Coast Chem. & Soap Works, Seattle, Wash.
Peck's Products Co., St. Louis, Mo.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Silmo Chemical Co., Vineland, N. J.
Werner G. Smith Co., 2191 W. 110th St., Cleveland

FIXATIVES, PERFUME (See ESSENTIAL OILS)

FLAKE SOAPS (see CHIP SOAPS)

FLOATING SOAPS

Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. La Salle St., Chicago
J. Eavenson & Sons, Camden, N. J.
Hewitt Soap Co., Dayton, Ohio
Iowa Soap Co., Burlington, Iowa
Lightfoot Schultz Co., 389—5th Ave., N.Y.
Procter & Gamble Co., Cincinnati
Geo. A. Schmidt & Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N.Y.
M. Werk Co., Cincinnati, O.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

FLOOR FINISHES (Non-Wax)

Candy & Co., 2515 W. 35th St., Chicago
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Davies—Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Federal Varnish Co., 337 S. Peoria St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Palmer Products, Inc., Waukesha, Wis.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
T. F. Washburn Co., 2244 Elston Ave., Chicago

FLOOR MACHINES

Amer. Floor Surfacing Mach. Co., Toledo, O.
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Fay Co., 130 Madison Ave., N.Y.
Finnell System, Inc., Elkhart, Ind.
General Floor Craft Corp., 333 6th Ave., N.Y.
Hild Floor Machine Co., 108 W. Lake St., Chicago
Kent Co., Rome, N.Y.
S. C. Lawlor Co., 122 N. Curtis St., Chicago
Lincoln-Schlueter Floor Machy. Co., 220 W. Grand Ave., Chicago
Ponsell Floor Machine Co., 220 W. 19th St., N.Y.

FLOOR SCRAPERS

Central Rubber Prods., 830 Broadway, N.Y.
A. F. Dormeyer Mfg. Co., 2640 Greenwich Ave., Chicago
Greenview Mfg. Co., 2557 Greenview Ave., Chicago
Lincoln-Schlueter Floor Machy. Co., 220 W. Grand Ave., Chicago
Palmer Products, Inc., Waukesha, Wis.
White Mop Wringer Co., Fultonville, N.Y.

FLOOR SCRUB SOAPS (See also Potash Soaps)

Candy & Co., 2515 W. 35th St., Chicago
Chemical Supply Co., 2450 Canal Road, Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N. Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore

New equipment—

IF YOU ARE LOOKING FOR A SPECIAL PIECE OF EQUIPMENT . . . NEW OR OTHERWISE . . . AND YOU DO NOT FIND IT LISTED IN THIS **BLUE BOOK**, WRITE TO THE PUBLISHERS, *SOAP & SANITARY CHEMICALS*, 254 WEST 31ST STREET, NEW YORK. WE WILL MAKE EVERY EFFORT TO LOCATE IT FOR YOU.

THE PUBLISHERS.

1886—WASHBURN—1938

Has Produced Private Label Floor Finishes.

SOLD ONLY THROUGH

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For-1938-A Product that *will increase your Profits and Business*

CRYSTAL-BRITE

The self polishing wax that is *different*—Offering—

1—WATER PROOFING
2—LUSTRE
3—ADHESION
4—ELASTICITY
5—TRANSPARENT COLOR
6—DURABILITY

Washburn's New Valuable Book *Modern Floor Maintenance for 1938* Explains the Treatment and Maintenance of—

WOOD	RUBBER
LINOLEUM	MASONITE
MASTIC	MAGNESITE
TILE	MARBLE
TERRAZZO	FURNITURE
CONCRETE	CORK

JOBBERS

WASHBURN PRODUCTS

Penetrating Seal
Tread Proof Seal No. 2
Tread Proof Seal
All American Gym Finish No. 4
All American Gym Finish
Crystal Seal
Non Slip Terrazzo Seal
Concrete Primer
All American Color Seal
Magic Lustre
Linoleum Finish
Rubber Seal
Special Furniture Finish
Neutral Cleaner
Reconditioner
Burnless Gym Finish
Utility Finish
Lustre Wax
Magic Lustre Concentrate
Penetrating Sealer Base
Mopping Varnish Light Viscosity
Mopping Varnish Heavy Viscosity
Gym Cleaner
Crystal-Brite
Mirra-Gloss

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WRITE FOR A COPY TODAY

T. F. WASHBURN CO.

FLOOR MAINTENANCE DIVISION
2244 ELSTON AVE.
CHICAGO, ILL.

FLOOR SCRUB SOAPS (Cont'd)

Harley Soap Co., 2854 E. Pacific St., Philadelphia
Kranich Soap Co., 60 Richard St., Brooklyn
Palmer Products Inc., Waukesha, Wis.
Shawmut Specialty Co., 91 Bickford St., Boston
Uncle Sam Chemical Co., 329 E. 29th St., N.Y.

FLOOR WAXES

American Wax Co., 1325 128th St., College Point, L. I.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Buckingham Wax Corp., Van Dam St., & Borden Ave., L. I. City., N.Y.
Candy & Co., 2515 W. 35th St., Chicago
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Clifton Chemical Co., 247 Front St., N.Y.
Davies—Young Soap Co., Dayton, O.
Federal Varnish Co., 337 S. Peoria St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Philadelphia
Fuld Bros., 702 S. Wolfe St., Baltimore
Hockwald Chem. Co., 30 Bluxome St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hunt Mfg. Co., Lisbon Rd., Cleveland
International Metal Polish Co., Twill St., & Belt Ry., Indianapolis
E. B. Moore & Co., 185 N. Wabash Ave., Chicago
Palmer Products, Inc., Waukesha, Wis.
Perrow Chemical Co., Hunt, Va.
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
H. F. Staples Co., Medford, Mass.
Uncle Sam Chemical Co., 329 E. 29th St., N.Y.
U. S. Sanitary Specialties Corp., 435 Western Ave., Chicago
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windsor Wax Co., Inc., 53 Park Pl., N.Y.

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Barrett Co. 40 Rector St., N.Y.
Cliffs Dow Chemical Co., Marquette, Mich
General Naval Stores Co., 230 Park Ave., N.Y.
Hardwood Chemical Co., 2 Jersey St., Buffalo, N.Y.
Hercules Powder Co., Wilmington
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Koppers Co., Koppers Bldg., Pittsburgh
National Aniline & Chemical Co., 40 Rector St., N.Y.
Reilly Tar & Chemical Corp., Indianapolis, Ind.
Republic Chemical Co., 94 Beekman St., N.Y.
Tennessee Eastman Corp., Kingsport, Tenn.

FLUORIDES
(See also Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
American Fluoride Corp., 151 W. 19th St., N.Y.
Foote Mineral Co., 1609 Summer St., Phila.
General Chemical Co., 40 Rector St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 57 Chambers St., N.Y.
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, 350 5th Ave., N.Y.
H. H. Rosenthal Co., 25 E. 26 St., N.Y.
Wiarda & Hall Acid Wks., 514 Gardner Ave., Brooklyn, N.Y.

FLY SPRAYS (See HOUSEHOLD INSECTICIDE SPRAYS)

FOAMING AGENTS (see SAPONIN)

FORMALDEHYDE
(see also Brokers and Dealers)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Cliffs-Dow Chem. Co., Marquette, Mich.
Delta Chem. & Iron Co., Wells, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Wm. S. Gray Co., 342 Madison Ave., N.Y.
Heyden Chem. Co., 50 Union Sq., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mallinckrodt Chemical Work, St., Louis, Mo.
Merck & Co., Rahway, N. J.
H. H. Rosenthal Co., 25 E. 26 St., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.

FORMALDEHYDE CANDLES

American Fluoride Corp., 151 W. 19th St., N.Y.
Bauer & Black, Chicago
Depree Chem., Holland, Mich.

FOSSIL FLOUR (See ABRASIVES)

FRAMES (Soap)

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Littleford Bros., 451 E. Pearl St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

FULLERS EARTH

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Chas B. Chrystal Co., 11 Park Pl., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Fullers Earth Co., 2049 E. 100th St., Cleveland
Hammill & Gillespie, 225 Broadway, N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
Whittaker, Clark & Daniels, 260 Broadway, N. Y.

FUMIGANTS (Cyanide, etc.)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Carbide & Carbon Chemicals Corp., 30 East 42nd St., N.Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Exterminating Materials Co., 712 Amsterdam Ave., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Kay-Fries Chemicals, Inc., 180 Madison Ave., N. Y.
Mechling Bros. Chemical Co., Line St. & Cooper Creek, Camden, N. J.
Michigan Alkali Co., 60 E. 42nd St., N.Y.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia

GAS MASKS

Davis Emergency Equip. Co., 55 Van Dam St., N.Y.
Mine Safety Appliances Co., Pittsburgh, Pa.

GAUGES (see INSTRUMENTS)

GERANIOL (See AROMATIC CHEMICALS)

GERANIUM OIL (see ESSENTIAL OILS)

GERANYL ACETATE (see AROMATIC CHEMICALS)

GIFT SETS (see NOVELTY SOAPS and TOILET SOAPS)

GLASS BOTTLES and JARS (see BOTTLES)

GLUES (see ADHESIVES)

GLYCERINE (Refined)

Armour & Co., 1355 W. 31st St., Chicago
Century Stearic Acid Candle Wks., 22 E. 40th St., N.Y.
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cox Aspden & Fletcher, 39 Cortlandt St., N.Y. (Import)
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Larkin Company, Buffalo, N.Y.
Lever Bros. Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
Leo Pasternak, 110 William St., N.Y. (Brokers)

WURSTER & SANGER, INC.

Contracting and Consulting Engineers

52nd STREET & S. KENWOOD AVE. CHICAGO, ILLINOIS

Specialists in the Soap, Glycerine, Fat and Oil Industries

Complete Plants and Engineering Services for:

Crude, Dynamite and C. P. Glycerine
Refining, Bleaching and Deodorizing Oils
Hydrogenation of Oils
Vegetable Shortening, Margarine
Salad Oil, Winter Oil
Evaporation in Single, Double and Multiple Effects
Fat Splitting by Twitchell and Autoclave Processes
Stearic Acid and Red Oil
Fatty Acid Distillation
Laundry and Toilet Soaps
Oil Extraction and Degreasing
Rendering, Edible and Inedible
Glue and Gelatine

Development of Processes, Reports, Investigations

W & S GLYCERINE EVAPORATORS

The improved WURSTER & SANGER Soap Lye Evaporator constitutes a marked advance in calandria design. Positive circulation of liquor in a definite direction has proved to increase the rate of evaporation and promote the separation of large crystals.

The WURSTER & SANGER Sweet-Water Evaporator has fulfilled the long need of complete accessibility for cleaning of tubes. It is equipped with an external heating element which affords high liquid velocity and a high rate of heat transfer.

GLYCERINE REFINING

Our continuous Glycerine Refining Plants represent the most modern and economical equipment for the production of Dynamite and C.P. grades from Crude. We have developed a plant which is an improvement over all former methods of distilling glycerine.

Our plants are producing C. P. glycerine in one distillation from crude glycerine of average quality with higher yields resulting from operation at high vacuum (12mm. absolute pressure) and low temperature (100 lbs. steam pressure).

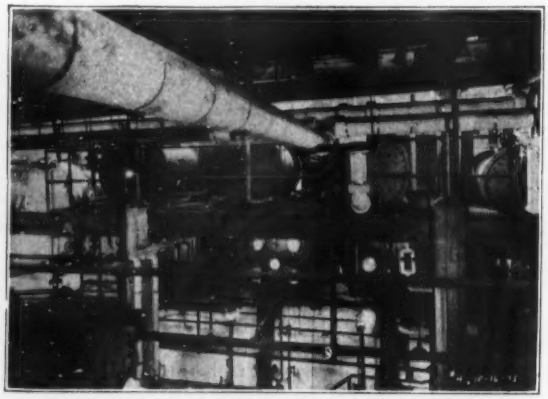
HYDROGENATION PLANTS

WURSTER & SANGER Oil Hardening Plants are built for partially or completely hardening vegetable oils, fish oils, lard and tallow, for edible and technical purposes.

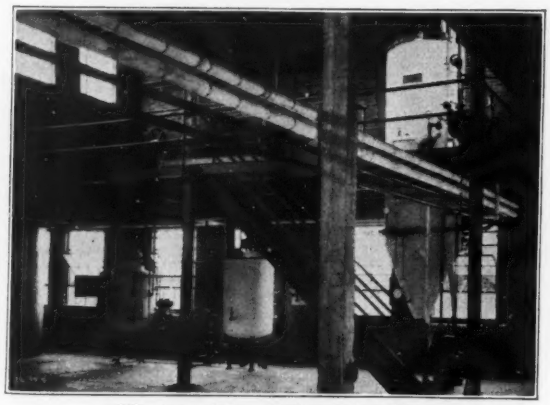
Our plants are simple, efficient and economical in operation and give uniform products of highest quality.

OIL REFINING AND DEODORIZING PLANTS

WURSTER & SANGER Oil Refining and Deodorizing Plants for the production of edible oils are suitable for cottonseed, corn, soya bean, peanut, cocoanut and other oils. Our equipment, processes and services cover completely all phases of this industry.



Wurster & Sanger Continuous Glycerine Distillation Plant



Wurster & Sanger Hydrogenation Plant

FATTY ACID DISTILLATION

WURSTER & SANGER Fatty Acid Distillation Plants are of improved design and construction throughout. Operation is under high vacuum and at low temperature, producing a superior quality of distilled fatty acids with high yields.

SOLVENT EXTRACTION PLANTS

Solvent Extraction Plants for recovering fats and oils and for degreasing are supplied in stationary, rotary and continuous types. Our plants are used for extracting oleaginous seeds and nuts, bones, cracklings and other oil and fat bearing materials. The WURSTER & SANGER Continuous Solvent Extraction System is a new development operating upon a basically new principle.

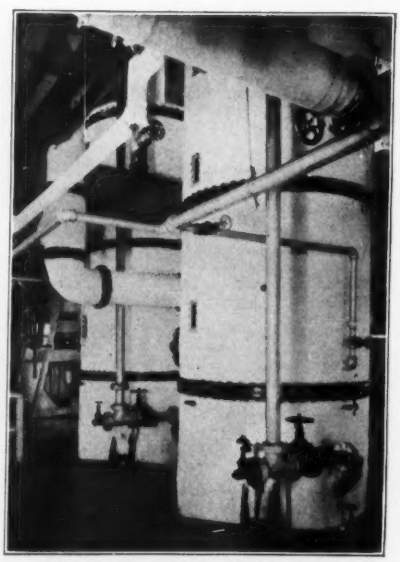
SOAP AND SOAP POWDER PLANTS

We specialize in the design and building of soap plants. Our Spray-Process Soap Powder Plant is producing soap powder at the lowest production cost.

ESTIMATES AND QUOTATIONS

We are glad to furnish information and quotations covering any equipment from the smallest part of an installation to complete plants for the manufacture of products from fats and oils.

Your inquiries will have our prompt consideration.



Wurster & Sanger Glycerine Evaporator

GLYCERINE (Refined) (Cont'd)

Procter & Gamble Co., Cincinnati
Swift & Co., Union Stock Yards, Chicago
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 West 65th St., Chicago

GLYCERINE DISTILLATION PLANTS

E. B. Badger Co., 25 Pitts St., Boston
Albert H. Bruecke, 30 Rockefeller Plaza, N.Y.
William Garrigue & Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 136 Liberty St., N. Y.
Ernest Scott & Co., Fall River, Mass.
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, 5201 Kenwood, Ave., Chicago
Zaremba Co., 506 Crosby Bldg., Buffalo, N.Y.

GREASES

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Otto A. C. Hagen Co., 929 Ledger Bldg., Phila.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Bklyn.
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
Procter & Gamble Co., Cincinnati
J. H. Redding Co., 17 Battery Pl., N.Y.
Willibald Schaefer Co., Foot of Bremen Ave., St. Louis
Snow Brokerage Co., 21 West St., N.Y.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
Louis Stern Sons, Inc., Produce Exchange, N.Y.
Theobald Animal By-Prod. Co., Kearny, N. J.
Toledo Tallow Co., Toledo, Ohio
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.
Wilson & Co., Union Stock Yards, Chicago
Wilson-Martin Co., Swanson St., Phila.
Woburn Degreasing Co., 1200 Harrison Ave., Harrison, N. J.

GREEN SOAP (See POTASH SOAP)

GRINDING MACHINERY (for milling, pulverizing, etc.)

Abbe Engineering Co., 50 Church St., N.Y.
American Pulverizer Co., 18th & Austin Sts., St. Louis
C. O. Bartlett & Snow Co., 6200 Harvard Ave., Cleveland
Blanchard Machine Co., 64 State St., Cambridge, Mass.
Consolidated Prods. Co., 15 Park Row, N. Y. Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Gruendler Patent Crusher & Pulverizer Co., 900 N. First St., St. Louis
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Kent Machine Works, 39 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehman Co., 248 W. Broadway, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Olsen & Tilgner Mfg. Co., 2276 Elston Ave., Chicago
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Chas. Ross & Sons, 150 Classon Ave., Bklyn.
Patterson Foundry & Machine Co., East Liverpool, O.
Sprout Waldron & Co., Muncy, Pa.
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. I. Stokes Machine Co., Philadelphia, Pa.
Sturtevant Mill Co., Harrison Sq., Boston
Williams Patent Crusher & Pulverizer Co., 2709 N. 9th St., St. Louis

GUMS

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Associated Chemists, Inc., 6243 S. Ashland Ave., Chicago
C. W. Campbell Co., 157 Chambers St., N.Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
A. C. Drury & Co., 219 East North Water St., Chicago, Ill.
Ehrmann-Strauss Co., 200 W. Houston St., N.Y.
Glyco Products Co., 148 Lafayette St., N.Y.
J. L. Hopkins & Co., 220 Broadway, N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
George H. Lincks, 123 Front St., N.Y.
Neuman-Buslee & Wolfe, 224 W. Huron St., Chicago, Ill.
Orbis Products Corp., 215 Pearl St., N.Y.
R. J. Prentiss & Co., 100 Gold St., N.Y.
J. H. Redding, Inc., 17 Battery Place, N.Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Stein, Hall & Co., 285 Madison Ave., N.Y.
Stroock & Wittenberg, 17 Battery Pl., N.Y.
Thurston & Braidich, 55 Van Dam St., N.Y.
G. A. Wharry & Co., 24 State St., N.Y.

GUNS, Powder (see BELLOWS, Insect Powder)

GYM-FINISH FLOOR SEAL (See FLOOR FINISHES).

HAND (Mechanic's) SOAP

Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chicago Sanitary Prods. Co., 3100 S .Throop St., Chicago
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
Cudahy Packing Co., 221 N. La Salle St., Chicago
Davies Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Flash Chem. Co., 160 2nd St., Cambridge, Mass.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hewitt Soap Co., Dayton, O.
R. M. Hollingshead Co., 840 Cooper St., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Mione Mfg. Co., Collingdale, Pa.
North Coast Soap & Chem. Wks., Seattle, Wash.
Palmer Products, Inc., Waukesha, Wis.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Skat Co., Hartford, Conn.
John T. Stanley Co., 642 W. 30th St., N.Y.
Trojan Products & Mfg. Co., 3107 S. Wabash Ave., Chicago
United Cleanser Mfg. Co., 160 Second St., Cambridge, Mass.
Utility Co., 636 W. 44th St., N.Y.
Vanco Co., Manchester, Conn.
Vliet Soap Co., 638 Monroe St., Brooklyn

HAND SOAP, Powdered

Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
J. Eavenson & Sons, Camden, N. J.
Packwood Mfg. Co., St. Louis
Palmer Products, Inc., Waukesha, Wis.
Peck's Products Co., St. Louis, Mo.
Presto Mfg. Co., 4044 20th Ave., S., Minneapolis
Procter & Gamble Co., Cincinnati
John T. Stanley Co., 642 W. 30th St., N.Y.
Warren Soap Mfg. Co., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

HARDWATER SOAPS (see COCONUT OIL SOAPS)

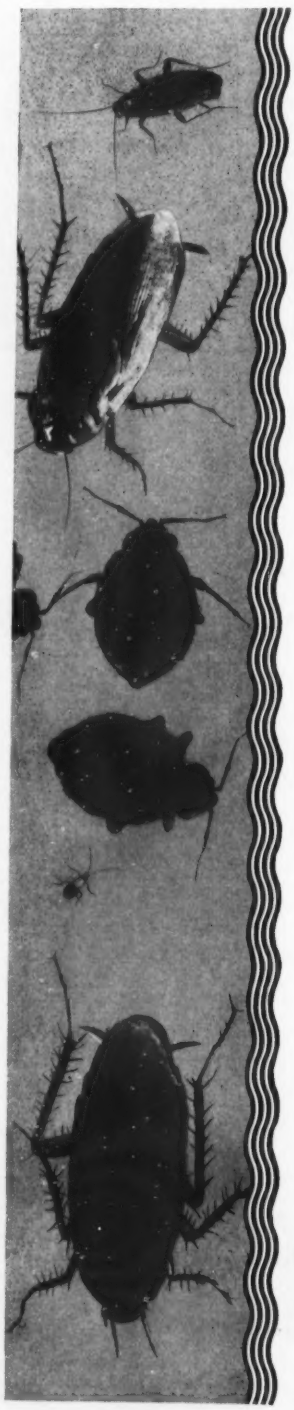
HELIOTROPIN (See AROMATIC CHEMICALS)

HEXALIN

E. I. du Pont de Nemours & Co., Wilmington, Del.

HOLDERS (Deodorizing Block)
(*see also Cans, Fibre*)

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cin-Made Corp., (fibre) 294 Eggleston Ave., Cincinnati
Clifton Chemical Co., 247 Front St., N.Y.
Eagle Soap Corp., Huntington, Ind.
Edelman Co., 6249 S. St. Lawrence Ave., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.



Lethane 384

Synthetic Insecticide Concentrate

MINIMIZES THE MANUFACTURING PROBLEMS OF YOUR INSECTICIDES

Lethane 384 prices are stable, not fluctuating. Manufacturing costs can be estimated safely and at the lowest figure compatible with quality. Over-ordering is not necessary to insure price protection.

Lethane 384 is always available. Immediate shipment can be obtained from our factory or warehouses on short notice.

Lethane 384 is always uniform. Standardization expense reaches a new minimum.

Lethane 384 is non-corrosive. Insecticides based on it can be processed and packaged in any container suitable for oil carriers.

Lethane 384 is always stable. Held-over stocks are never a loss.

See more about Lethane on page 146

RÖHM & HAAS COMPANY, INC.

222 West Washington Square PHILADELPHIA, PA.

930 N. Halsted St., Chicago, Ill. *215 W. Pershing Rd., Kansas City, Mo.*
P. O. Box 98, Oakland, Calif.

Canadian Agent: P. N. SODEN & CO., LTD., *Lachine, P. Q., Canada*

HOLDERS (Deodorizing Block) (Cont'd)

Palmer Products, Inc., Waukesha, Wis.
Rochester Germicide Co., 16 Downing Pl., Rochester, N.Y.
Uncle Sam Chemical Co., 329 E. 29th St., N.Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

HOMOGENIZERS (DISPERSION EQUIPMENT)

Abbe Engineering Co., 50 Church St., N.Y.
Manton-Gaulin Mfg. Co., 19 Charlton St., Everett, Mass.

HORTICULTURAL SPRAY BASE (See PETROLEUM BASES)

HOUSEHOLD INSECTICIDE BASE (See PETROLEUM BASES)

HOUSEHOLD INSECTICIDES, LIQUID

American Fluoride Corp., 151 W. 19th St., N.Y.
American Mothproof Co., 2330 W. View St., Los Angeles
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Antiseptol Co., 5524 Northwest Highway, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Cary Mfg. Co., Joliet, Ill.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Clifton Chemical Co., 247 Front St., N.Y.
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
Davies-Young Soap Co., Dayton, O.
Delta Chemical Co., 1815 Riverside Drive, N.Y.
Derris, Inc., 79 Wall St., N.Y.
C. B. Dolge Co., Westport, Conn.
Eagle Soap Corp., Huntington, Ind.
Edelman Co., 6249 S. St. Lawrence Ave., Chicago
Exterminating Materials Co., 712 Amsterdam Ave., N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Globe Sanitary Supply Co., 2249 E. 38th St., Los Angeles
James Good, Inc. Kensington, Phila.
Goulard & Olena, 140 Liberty St., N.Y.
Haag Laboratories, Inc., 6101 S. May St. Chicago
Harley Soap Co., 2832 E. Pacific St., Phila.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hunt Mfg. Co., Lisbon Rd., Cleveland
Jansen Soap & Chemical Co., 324 Levenworth St., San Francisco
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Maywood Pest Exterminators, 1206 S. 1st Ave., Maywood, Ill.
McCormick & Co., Inc., Baltimore, Md.
Midway Chemical Co., 5235 W. 65th St., Chicago
Edgar A. Murray Co., 2703 Guoin St., Detroit
Palmer Products, Inc., Waukesha, Wis.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Perrow Chem. Co., Hurt, Va.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Selig Co., 336 Marietta St., Atlanta,Ga.
Shores Co., Cedar Rapids, Ia.
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Standard Oil Co., of Calif., San Francisco
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
Standard Oil Co., (Ohio) Midland Bldg., Cleveland
Trojan Products & Mfg. Co., 3107 S. Wabash Ave., Chicago
Uncle Sam Chemical Co., 329 E. 29th St., N.Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Vliet & Co., 638 Monroe St., Brooklyn
White Tar Co., Kearny, N. J.
Robert C. White Co., Falls of Schuylkill, Phila.

HOUSEHOLD INSECTICIDES, POWDERED

Allaire Woodward & Co., Peoria, Ill.
American Fluoride Corp., 151 W. 19th St., N.Y.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Delta Chemical Co., 1815 Riverside Drive, N.Y.
Eagle Soap Corp., Huntington, Ind.
Exterminating Materials Co., 712 Amsterdam Ave., N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Globe Sanitary Supply Co., 2249 E. 38th St., Los Angeles
James Good, Inc., Kensington, Philadelphia
Goulard & Oena, Inc., 140 Liberty St., N.Y.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
R. M. Hollingshead Corp., Camden, N. J.
J. L. Hopkins & Co., 220 Broadway, N.Y.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Maywood Pest Exterminators, 1206 S. 1st Ave., Maywood, Ill.
McCormick & Co., Inc., Baltimore, Md.
McLaughlin Gormley King Co., 1715—5th St., S. E., Minneapolis, Minn.
Midway Chemical Co., 5235 W. 65th St., Chicago
Edgar A. Murray Co., 2703 Guoin St., Detroit
Palmer Products, Inc., Waukesha, Wis.
S. B. Penick & Co., 132 Nassau St., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
Theo. B. Roberston Prods. Co., 700 W. Division St., Chicago
Ratin Labs., 116 Broad St., N.Y.
Selig Co., 336 Marietta St., Atlanta, Ga.
Shores Co., Cedar Rapids, Ia.
Trojan Products & Mfg. Co., 3107 S. Wabash Ave., Chicago
Uncle Sam Chemical Co., 329 E. 29th St, N.Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
White Tar Co., Kearny, N.J.

HYDROGENATED OILS

W. C. Hardesty Co., Inc., 41 E. 42nd St., N.Y.
Procter & Gamble Co., Cincinnati, O.
Werner G .Smith Co., 2191 W. 110th St., Cleveland
Wesson Oil & Snowdrift Co., 21 West St., N.Y.
Wyandotte Oil Co., Wyandotte, Mich.

HYDROGENATION PLANTS (See OIL HYDROGENATION PLANTS)

HYDROSULFITES (Soap Bleaches)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Jungmann & Co., 157 Chambers St., N.Y.
Merrimac Chem. Co., 148 State St., Boston
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.

HYDROXYCITRONELLAL (see AROMATIC CHEMICALS)

HYPOCHLORITES (see CHLORINE) (see LAUNDRY BLEACH)

INFUSORIAL EARTH (see ABRASIVES)

INSECT FLOWERS (see PYRETHRUM)

INSECT POWDER (see PYRETHRUM)

INSECT POWDER GUNS (See BELLOWS)

INSECTICIDE BASE (see PETROLEUM BASES)

INSECTICIDE CONCENTRATES, Synthetic

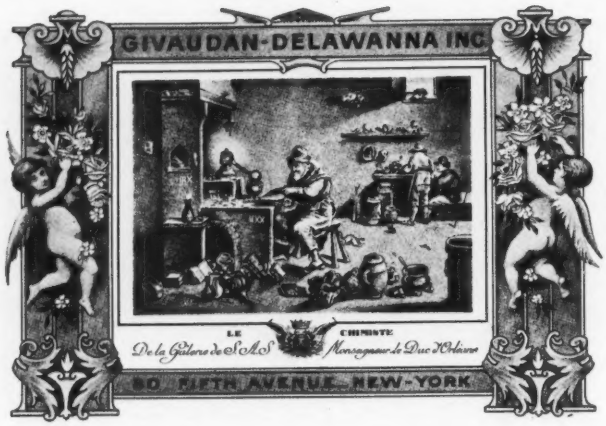
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Kessler Chemical Corp., 239 11th Ave., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
Rohm & Haas, Inc., 222 W. Washington Sq., Phila.

INSECTICIDE SPRAY PERFUMES (see also PERFUMING MATERIALS)

van Ameringen-Haebler, Inc., 315 4th Ave., N.Y.
Aromatic Products Inc., 15 E. 30th St., N. Y.
Antoine Chiris Co., 115 E. 23rd St., N.Y.
Dodge & Olcott Co., 180 Varick St., N.Y.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Chas. Fischbeck Co., 119 W. 19th St., N.Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N.Y.

YOUR INSECTICIDE OR DISINFECTANT ODOR

COMPOUNDED TO ORDER



• There is considerable difference between a correctly scented insecticide or disinfectant and one scented on a hit-or-miss basis. One gives permanent satisfaction and leads to repeat sales while the other is apt to give trouble or fail to fulfill its purpose properly when used by the customer.

Givaudan chemists have studied the problem from every angle and are prepared to give your products the specialized attention they deserve. We will be glad to cooperate with you in developing an odor that will meet your individual requirements *correctly* and *economically*. It is a service we have perfected through long pioneering experience. A word from you will put us to work on your problem.

GIVAUDAN
DELAWANNA, INC.
80 FIFTH AVENUE, NEW YORK, N. Y.

BRANCH OFFICES:

PHILADELPHIA LOS ANGELES CINCINNATI DETROIT DALLAS
BALTIMORE CHICAGO SAN FRANCISCO SEATTLE
MONTREAL HAVANA

INSECTICIDE SPRAY PERFUMES (Cont'd)

Givaudan-Delawanna, Inc., 80 Fifth Ave., N.Y.
Magnus, Mabee & Reynard, Inc., 32 Cliff St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
Schimmel & Co., 601 W. 26th St., N.Y.

INSECTICIDE TESTING (see CONSULTANTS)

INSECTICIDES, (see HOUSEHOLD INSECTICIDES, AGRICULTURAL INSECTICIDES)

INSTRUMENTS, Meters, Gauges, Thermometers, Etc.

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland
Bausch & Lomb Optical Co., Rochester, N.Y.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Bristol Co., Waterbury, Conn.
Brown Instrument Co., Wayne & Windrim Sts., Philadelphia
Buffalo Meter Co., 2890 Main St., Buffalo, N.Y.
G .M. Davis Regulator Co., 2541 S. Washtenaw, Chicago
Eimer & Amend, 19th St., 3rd Ave., N.Y.
Foxboro Co., Foxboro, Mass.
Liquidometer Corp., Long Island City, N.Y.
Pneumercator Co., Sperry Bldg., Brooklyn
Precision Thermometer Co., 1434 Brandywine St., Philadelphia
Read Machy. Co., York, Pa.
Republic Flow Meters Co., 2240 Diversey Blvd., Chicago
Taylor Instrument Co., Rochester, N. Y.

IONONE (Violet Base) (See AROMATIC CHEMICALS)

JAPAN WAX (See WAXES)

JARS, GLASS (See BOTTLES)

JASMIN, ARTIFICIAL See AROMATIC CHEMICALS)

KAOLIN (See CLAYS)

KEROSENE (See PETROLEUM)

KETTLES

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Bethlehem Foundry & Machine Co., Grand Central Bldg., N.Y.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Edge Moor Iron Wks., 30 Rockefeller Plaza, N.Y.
Houchin Machinery Co., Hawthorne, N.J.
Huber Machine Co., 259—46th St., Brooklyn
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Littleford Bros., 443 E. Pearl St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Machine Co., East Liverpool, O.
Pfaudler Co., 89 East Ave., Rochester, N.Y.
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N.Y.
F. J. Stokes Mach. Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.
Stuart & Peterson Co., Burlington, N. J.
H. B. Trout Co., 240 Ohio St., Buffalo, N. Y.

KIESELGUHR (Infusorial Earth) (see ABRASIVES AND FILLERS)

KITS (Wooden) (see PAILS, WOODEN)

LABELING MACHINES (Bottles and Cans)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Burt Machine Co., Baltimore, Md.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Economic Machinery Corp., Worcester, Mass.
Edward Ermold Co., 652-64 Hudson St., N.Y.
J. L. Ferguson Co., Joliet, Ill.
National Labeling Machine Co., 129 W. 19th St., Long Island City, N.Y.
New Jersey Machine Corp., Hoboken, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Scientific Filter Co., 1 Franklin Square, N.Y.

LABELING MACHINES (Boxes & Cakes)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
New Jersey Machine Corp., Hoboken, N.J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
Scientific Filter Co., 1 Franklin Square, N.Y.
Stokes & Smith Co., Summerdale, Phila., Pa.

LABELS

American Lithographic Co., 52 E. 19th St., N.Y.
Dennison Mfg. Co., Framingham, Mass.
Foxon Co., Providence, R. I.
Henderson Lithographing Co., Norwood, Cincinnati
R. J. Kittredge Co., 812 W. Superior St., Chicago
Stobridge Lithographing Co., Norwood Station, Cincinnati
U. S. Printing & Litho. Co., Cincinnati, O.

LABORATORIES, CONSULTING (see Consultants)

LABORATORY APPARATUS

Central Scientific Co., 460 E. Ohio St., Chicago
Eimer & Amend, 19th St., & 3rd Ave., N.Y.
Empire Lab. Supply Co., 559 W. 132nd St., N.Y.
Fisher Scientific Co., Pittsburgh
Emil Greiner Co., 55 Van Dam St., N.Y.
Laboratory Construction Co., 1111 Holmes St., Kansas City, Mo.
Scientific Materials Co., Pittsburgh
Arthur H. Thomas Co., Wash Sq., Phila.
Will Corp., Rochester, N.Y.

LABORATORY CHEMICALS

J. T. Baker Chemical Co., Phillipsburg. N. J.
General Chemical Co., 40 Rector St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chemical Works, 3600 N. 2nd St., St. Louis
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350 5th Ave., N.Y.
Sterling Products Co., Easton, Pa.

LAUNDRY BLEACH (see also CHLORINE)

Columbia Alkali Corp., Barberton, Ohio
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Chrisman Supply Co., Fayetteville, N.Y.
Legrand Bleach Corp., 111-49th St., Bklyn.
Mathieson Alkali Wks., 60 E. 42nd St., N.Y.
Monsanto Chemical Co., St. Louis, Mo.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Surpass Chemical Co., Albany, N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.
Warner Chemical Co., 405 Lexington Ave., N.Y.

LAUNDRY BLUE

American Fluoride Corp., 151 W. 19th St., N.Y.
Fezandie & Sperrle, 205 Fulton St., N.Y.
Interstate Color Co., 5 Beekman St., N.Y.
H. Kohnstamm & Co., 91 Park Pl., N.Y.
National Aniline & Chemical Co., 40 Rector St., N.Y.
Pylam Products Co., 799 Greenwich St., N.Y.

LANOLIN

Bopf-Whittam Corp., Westfield, N. J.
Hummel Chemical Co., 90 West St., N.Y.
Adolphe Hurst & Co., 330 W. 42nd St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.

MALMSTROM
FOR
LANOLIN
Anhydrous U.S.P.
Technical Lanolin
Hydrous U.S.P.
Absorption Base
COMMON DEGRAS
WOOL GREASE FATTY ACIDS
NEUTRAL DEGRAS
WRITE FOR TESTING SAMPLES
Stocks Carried in Chicago, Minneapolis and Kansas City by Thompson-Hayward Chemical Co.
Always Uniform
N. I. MALMSTROM & CO.
147 LOMBARDY STREET · BROOKLYN, N. Y.

LANOLIN (Cont'd)

Lanaetex Prods. Sales Corp., Box 52 Station A., Elizabeth, N.J.
N. I. Malstrom & Co., 147 Lombardy St., Brooklyn
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350 5th Ave., N.Y.
H. H. Rosenthal Co., 25 E. 26 St., N.Y.

LAUNDRY SOAP, CAKE

Armour Soap Wks., 1355 W. 31st St., Chicago
Cincinnati Soap Co., Cincinnati, O.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Fels & Co., Philadelphia
Hewitt Soap Co., Dayton, O.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Manhattan Soap Co., Bristol, Pa.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Soap Co., 357 S. 25th St., Tacoma, Wash.
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
Peck's Prods. Co.., 522-40 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
North Coast Chem. & Soap Wks., Seattle, Wash.
John T. Stanley Co., 642 W. 30th St., N.Y.
Swift & Co., Union Stock Yards, Chicago
Vliet Soap Co., 63 Monroe St., Cambridge, Mass.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., Phila.

LAUNDRY SOAP, CHIP

Armour Soap Wks., 1355 W. 31st St., Chicago
Cincinnati Soap Co., Cincinnati, O.
Du Bois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Harris Soap Co., Buffalo, N.Y.
Haskins Bros. & Co., Sioux City, Iowa
Hewitt Soap Co., Dayton, Ohio
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Products Co., 522-40 N. 2nd St., St. Louis, Mo.
Procter & Gamble Co., Cincinnati
John T. Stanley Co., 642 W. 30th St., N.Y.
Swift & Co., Union Stock Yards, Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., Phila.

LAUNDRY SOAP, POWD. AND GRAN.

American Soap Powder Wks., 100 Van Dyke St., Brooklyn, N.Y.
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Cudahy Packing Co., 221 N. La Salle St., Chicago
DuBois Soap Co., Cincinnati, O.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Hewitt Soap Co., Dayton, Ohio
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Lever Bros., Co., Cambridge, Mass.
Los Angeles Soap Co., Los Angeles, Calif.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
Nat'l Milling & Chem. Co., Manayunk, Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Paper Makers Chemical Corp., Kalamazoo, Mich.
Peck's Prods., 522-40 N. 2nd St., St. Louis
Proctor & Gamble Co., Cincinnati
John T. Stanley Co., 642 W. 30th St., N.Y.
Stevens Soap Corp., 202 Sullivan St., Bklyn.
Swift & Co., Union Stock Yards, Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., Cincinnati, O.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., Phila.

LAUNDRY SODA, see SODA

LAUNDRY SOURS (Fluoride)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
American Fluoride Corp., 151 W. 19th St., N.Y.
Bowker Chem. Co., 50 Church St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hummel Chem. Co., 90 West St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Pfaltz & Bauer, 350 5th Ave., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
V. C. Products Co., Philadelphia
Victor Chemical Wks., 141 W. Jackson Blvd., Chicago

LAURIC ACID (see FATTY ACIDS)

LAURYL ALCOHOL

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Michel Export Co., 95 Broad St., N.Y.

LAVENDER OIL (See ESSENTIAL OILS)

LEAD ARSENATE

Bowker Chemical Co., 50 Church St., N.Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.

LECITHIN

American Lecithin Corp., Corona Ave., Elmhurst, L. I.
Digestive Ferments Co., 930 Henry St., Detroit
R. W. Greeff & Co., 10 E. 40th St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Pfaltz & Bauer, 350 5th Ave., N.Y.
Soya Corp. of America, 30 Rockefeller Pl., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Wilson Labs., 4221 S. Western Blvd., Chicago

LEMON OIL (see ESSENTIAL OILS)

LEMONGRASS OIL (see ESSENTIAL OILS)

LIME (Live and Hydrated)

Innis, Speiden & Co., 117 Liberty St., N.Y.
Lehigh Lime Co., 111 W. Washington St., Chicago
National Gypsum Co., 192 Delaware Ave., Buffalo, N.Y.
U. S. Lime Prods Corp., 85 Second St., San Francisco
Whiterock Quarries, Inc., Bellefonte, Pa.
Whittaker, Clark & Daniels, Inc., 260 West Broadway, N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

LIME SULFUR

Allen Co., Pittstown, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

LINALOE OIL (see ESSENTIAL OILS)

LINALOOL (see AROMATIC CHEMICALS)

LINALYL ACETATE (see AROMATIC CHEMICALS)

LINERS (see BAG LINERS)

LINING MACHINERY (Cartons)

Pneumatic Scale Corp., Norfolk Downs, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago

PARADOW

(PURE PARADICHLORBENZENE)

Paradow* is virtually a standard product in the industry because of its uniform quality, wide choice of size and its free flowing characteristics. Six standard, graded sizes, with special sizes also available on order, make it possible to adapt Paradow to your particular manufacturing requirements. Samples and price sent promptly upon request.

DOW PRODUCTS FOR THE SOAP INDUSTRY

DOW Aromatic Chemicals . . .

Coumarin (odor of Sweet Clover)—Phenyl Ethyl Alcohol (odor of Rose)—Methyl Salicylate (odor and flavor of Wintergreen) — Methyl Anthranilate (odor and flavor of Grape)—Diphenyl-oxide (odor of Rose Geranium).

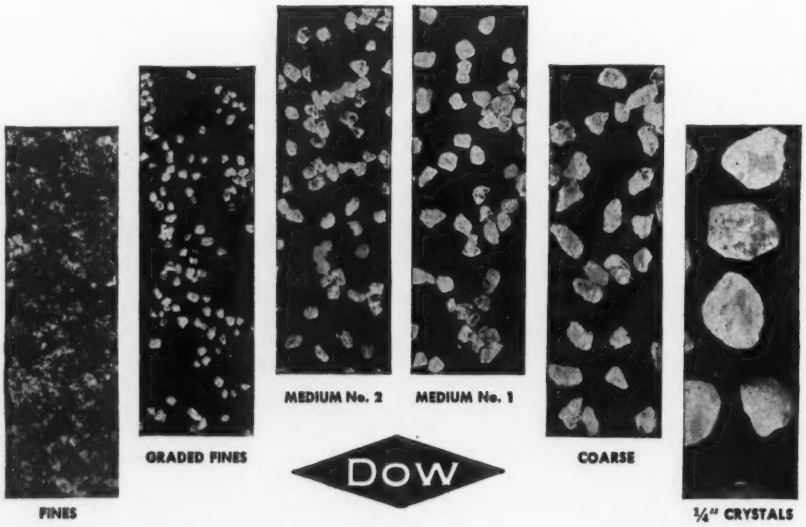
DOW Solvents . . .

Carbon Tetrachloride—Ethylene Dichloride—Tetrachlorethylene Propylene Dichloride—Orthodichlorbenzene.

Other DOW Products . . .
Caustic Soda
Dowicides (Disinfectants).

THE DOW CHEMICAL COMPANY, Midland, Michigan

Branch Sales Offices: 30 Rockefeller Plaza, New York City • Second and Madison Streets, Saint Louis Field Building, Chicago • 584 Mission Street, San Francisco • 2260 East 15th Street, Los Angeles



*Trade Mark Reg. U. S. Pat. Off.

LINSEED OIL
(see also Brokers and Dealers)

Archer-Daniels-Midland Corp., Minneapolis, Minn.
William O. Goodrich Co., Milwaukee, Wis.
Spencer Kellogg & Sons, Buffalo, N.Y.
Kelloggs & Miller, Amsterdam, N.Y.
Minnesota Linseed Oil Co., Minneapolis, Minn.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

LINSEED OIL SOAP (see POTASH SOAPS)

LIQUID SOAP AND BASE (see POTASH SOAP)

LIQUID SOAP COLORS (see COLORS)

LIQUID SOAP PERFUMES (See SOAP PERFUMES)

MACHINERY (Used) (see USED MACHINERY)

MAGNESIUM STEARATE (see STEARATES)

MARINE SOAPS (see SALT WATER SOAPS)

MARSEILLES SOAP (see TEXTILE SOAPS, POTASH SOAPS)

MECHANIC'S SOAP (see HAND SOAP)

MEDICINAL SOAPS, CAKE

Armour Soap Wks., 1355 W. 31st St., Chicago
Cincinnati Soap Co., Cincinnati
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles
Newell Gutradt Co., 350 Fremont St., San Francisco, Cal.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N.Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MEDICINAL SOAPS, LIQUID (see POTASH SOAPS)

MENTHOL
(see also Essential Oils)

Aromatic Products, Inc., 15 E. 30th St., N.Y.
H. J. Baker & Bros., 271 Madison Ave., N.Y.
S. W. Bridges & Co., 70 Pine St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Fritzsche Bros., Inc., 76 Ninth Ave., N.Y.
Hosken & Co., 56 Pine St., N.Y.
Magnus, Mabee & Reynard, Inc., 79 Cliff St., N.Y.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N.Y.
McKesson & Robbins, Inc., 79 Cliff St., N.Y.
Mitsui & Co., 350—5th Ave., N.Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
R. J. Prentiss & Co., 100 Gold St., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Schimmel & Co., 601 W. 26th St., N.Y.
Sherka Chemical Co., 86 Orange St., Bloomfield, N.J.
S. Suzuki & Co., 230 Park Ave., N.Y.

MERCURY BICHLORIDE (Corrosive Sublimate)

General Chem. Co., 40 Rector St., N.Y.
Heyden Chemical Corp., 50 Union Sq., N.Y.
Mallinckrodt Chemical Works, St. Louis
Merck & Co., Rahway, N. J.
New York Quinine & Chem. Wks., N. 11th & Berry Sts., Brroklyn
Chas. Pfizer & Co., 81 Maiden Lane, N.Y.

METAL CAPS (see CAPS, METAL)

METAL POLISH (see POLISH)

METERS (see INSTRUMENTS)

METHYL ANTHRANILATE
(see also Aromatic Chemicals)

Dow Chemical Co., Midland, Mich.
A. Maschmeijer, Jr., Inc., 45 W. 16th St., N.Y.

METHYL SALICYLATE (Artifical Wintergreen)
(see also Aromatic Chemicals)

Dow Chemical Co., Midland, Mich.
Heyden Chemical Corp., 50 Union Sq., N.Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis

MILLS, COLLOID

Abbe Engineering Co., 50 Church St., N.Y.
Consolidated Products Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Manton-Gaulin Mfg., 19 Charlton St., Exerett, Mass.
Newman Tallow & Soap Machy. Co., 1051 W. 65th St., Chicago (Used)
Travis Colloid Research Co., 119 Broad St., N.Y.
U. S. Colloid Mill Corp., 13th St., & East Ave., L. I. City, N.Y.

MILLS, SOAP POWDER (see SOAP MACHINERY & GRINDING MACHINERY)

MILLS, TOILET SOAP (see SOAP MACHINERY)

MINERAL OIL, WHITE, see WHITE MINERAL OIL

MINERAL SOAP STOCK, see PETROLATUM

MIRBANE OIL (Nitrobenzene)
(see also Essential Oils)

Calco Chemical Co., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Monsanto Chemical Works, 1724 S. 2nd St., St. Louis
National Aniline & Chemical Co., 40 Rector St., N.Y.
Naugatuck Aromatics, Inc., 153 Waverly Pl., N.Y.

MIXERS (Portable)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Consolidated Products Co., 15 Park Row, N.Y. (Used)
Ertel Eng. Co., 120 E. 16th St., N.Y.
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Frank B. Lomax Co., 365 W. Oak St., Chicago
Mixing Equipment Co., Inc., 1024 Garson Ave., Rochester, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Fdy. & Mch. Co., E. Liverpool, O.
Pfaudler Co., 89 East Ave., Rochester, N.Y.
Read Machy. Co., York, Pa.

MIXING MACHINERY (Change Can)

Abbe Engineering Co., 50 Church St., N.Y.
Arthur Colton Co., Detroit, Mich.
Consolidated Products Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Houchin Machy. Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Kent Machine Works, 39 Gold St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Mch. Co., E. Liverpool, Ohio
Read Machy., Co., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Vol-U-Meter Co., 707 Ohio St., Buffalo, N.Y.
Waterville Fndry. & Machine Co., Waterville, N.Y.

MIXING MACHINERY (Dry Products)

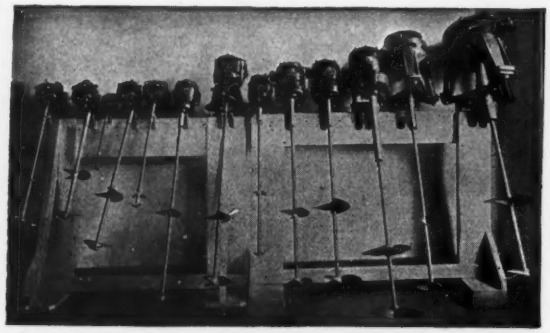
Abbe Engineering Co., 50 Church St., N.Y.
Consolidated Products Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
B. F. Gump Co., 431 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn

Hy-Speed EQUIPMENT

for SPEED and ECONOMY in the processing of

Soaps . Disinfectants . Insecticides . Chemicals . Lyes . Oils . Etc.

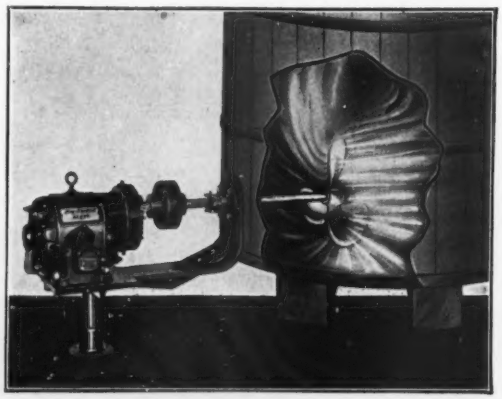
MIXING



A mixer with the most effective combination of power, speed, propeller size, pitch, and area—a mixer that is designed correctly, balanced perfectly, and constructed ruggedly—a mixer that clamps to any tank or other container you now have—is the one that will do your mixing jobs most thoroughly and at a low operating cost.

COMPLETE RANGE FOR ANY MIXING JOB

The many types and sizes of "Hy-Speed" Portable Electric Mixers shown and described in our catalog have been developed to cover the many liquid-mixing problems that had to be solved before it could truly be said that "Hy-Speed Mixers are best for every mixing job." In order that we may recommend the correct mixer for your particular mixing work, we should have some general information about your product, and the work to be done.

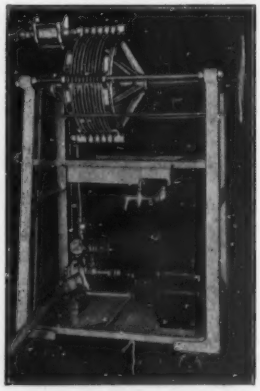


AGITATING

There are many processes involving agitation in which a side entering propeller member is desirable or even absolutely essential. The proper engineering of such installations is equally essential for the achievement of exact predetermined results.

MIXING UNITS

Complete Mixing Units consisting of Alsop Glass Coated Tank with Hy-Speed Mixer attached come in all sizes up to 200 gals. Convenient, sanitary, self draining, efficient.



5 to 10 gallons per minute 10 Disc Filter.

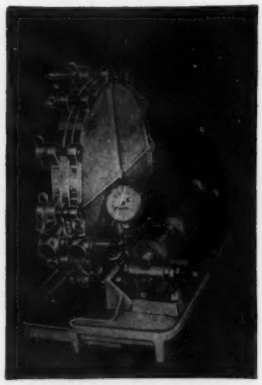
FILTERING

For sediment-free, attractive-looking liquid products.

If you're intent on turning out a liquid that is absolutely sediment-free (and will stay that way)—a product that really stands out in attractiveness, you'll be interested in the results obtained with Hy-Speed Ultra Fine Disc Filter.

Hy-Speed Asbestos Discs, the filtering media used, remove every bit of cloud and minute foreign matter and produce a clear brilliant liquid.

Hy-Speed Filters are available in all sizes for any filtering capacity you desire from 1½ G. P. M. to 60 G. P. M. (5 G. P. M. 10-Disc Filter is shown at left).



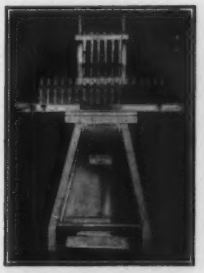
Laboratory and small production model.

ABOVE, improved Siphon Filler: RIGHT, Portable Vacuum Filler.

BOTTLE FILLING

Any size or type container from 1 dram up to gallons

We make gravity, portable vacuum, syphon, and semi-automatic vacuum filling machines. In our complete line of filling machines there is one of the right type and capacity to efficiently handle any production large or small from a few dozen per hour to twenty-five thousand per eight hour day.



Semi-Automatic Filler —2000 qts. per hr.

CAPPING

Assures positively air-tight leakproof screw caps of all shapes, styles or sizes.

If you are using screw caps on your bottles, cans, or other containers, here's an inexpensive, simplified method of tightening them absolutely securely.

The Hy-Speed Portable Screw Capper is a positive safeguard against waste and rejected shipments caused by leaky bottles that have been capped by uncertain, haphazard methods.

HANDLES ANY SIZE CAP

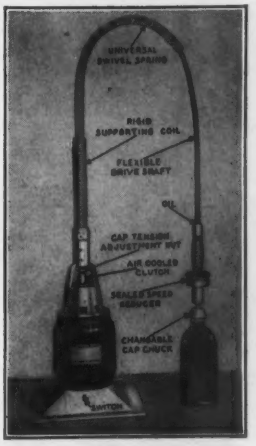
Instantly adjustable for handling any size cap, the unit is ideal for steady production work or for numerous capping jobs in your plant involving a large variety of caps and bottle sizes and styles.

COMPACT - - - SIMPLIFIED - - - INEXPENSIVE

The unit is compact and self contained; it is portable and can be used anywhere in the plant as necessity requires; it is built for continuous duty and costs but a few cents a day to operate.

The machine can be quickly and very accurately adjusted so that any cap can be put on with the exact degree of tightness desired.

Convenient stationary or portable wheeled stands are available.



LABELING

A neat, quick inexpensive method.

The Hy-Speed Labelit applies to any label up to 8" wide, a smooth even coating of glue or gum, of just the right thickness so that the label will adhere quickly and perfectly to the container or package without any excess glue squeezing out around the edges to spoil or mar the appearance of the finished product. It handles any and all labels without any adjustments or exchanges of any kind; gear driven for dependability, completely covered for cleanliness; quickly disassembled for easy and thorough cleaning; it is practical for a few dozen or for thousands of labels a day.

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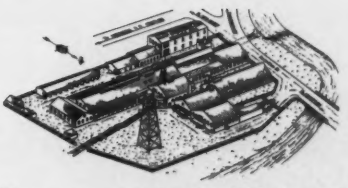
Cable Address "Speedhy"
Direct Western Union Wire

Main Office and Factory
384 Main Street
MILLDALE, CONNECTICUT

Manufacturers of **Hy-Speed** *EQUIPMENT*



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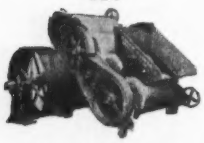
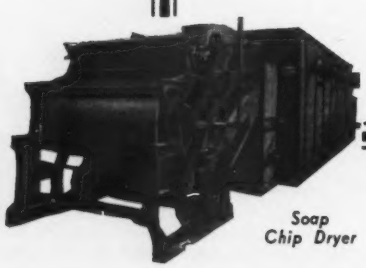


4-Roll Soap Mill

Perfection Crutcher

6-Knife Chipper

Foot Press



Soap Chip Dryer

- Proctor & Schwartz Soap Chip Dryers, complete.
- Pneumatic Scale Carton Package Machines.
- Jones Automatic Soap Presses.
- Houchin, Dopp, and Crosby Foot Presses.
- Two, Three, Four-Roll Granite Toilet Soap Mills.
- Day, Ross, Three-Roll Steel Mills.
- H-A Automatic and Hand Slabbers.
- Blanchard #10-A Soap Powder Mills.
- Holmes & Blanchard four cage Soap Powder Disintegrators.
- H-A 8 and 10" Single Screw Plodders.
- Rutchmann Twin Screw 6" Plodders.
- Steam Jacketed Crutchers, 1000 to 5000 lbs. capacity.
- H-A Soap Frames, 1200 lbs.
- Automatic Soap Wrapping Machines, Adjustable with Electric glue heaters.
- Shriver, Sperry, Johnson Cast Iron Square Filter Presses 12" to 36".
- Day, Gedge Gray, Robinson Mixers, 100 to 4000 lbs. capacity with and without sifters.
- Broughton 1200-1500 lb. Soap Powder Mixers.
- Proctor & Schwartz 5-Roll Water Cooled Mills.
- Houchin 4 and 6 knife Chippers.
- Houchin Amalgamators, Single and Two-Way Cutting Tables.
- Glycerine Evaporators.
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- Day Pony Mixers, 8, 15, and 40 gal., Rotex and EX Vibrating Screens.
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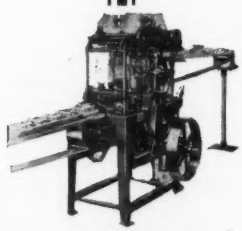
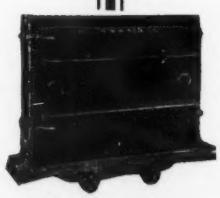
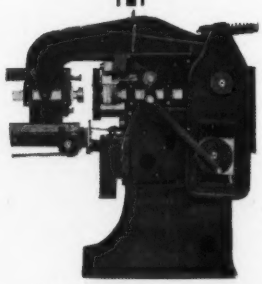
Blanchard Soap Powder Mill



Soap Wrapping Machine

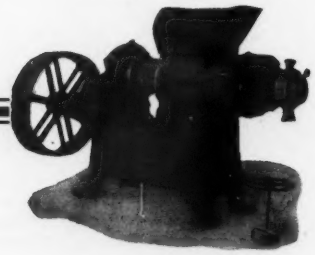


Standard Soap Frame



Automatic Soap Press

Soap Plodder



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Lancaster Iron Works, Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Read Machy. Co., York, Pa.
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Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Sprout Waldron & Co., Muncy, Pa.
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Philadelphia, Pa.
Struthers-Wells Corp., Warren, Pa.
Aurelio Tanzi Engineering Co., 235—4th Ave., N.Y.

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Alsop Engineering Corp., 384 Main St., Milldale, Conn.
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Beach-Russ Co., 50 Church St., N.Y.
Arthur Colton Co., Detroit
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Edge Moor Iron Wks., 30 Rockefeller Plaza, N.Y.
Houchin Machinery Co., Hawthorne, N. J.
S. Howes Co., Inc., Silver Creek, N.Y.
Huber Machine Co., 259—46th St., Brooklyn
Kent Machine Works, 37 Gold St., Brooklyn
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., 248 West Broadway, N.Y.
Littleford Bros., 443 E. Pearl St., Cincinnati
Mixing Equipment Co., 1024 Garson Ave., Rochester, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Mach. Co., East Liverpool, Ohio
Read Machinery Co., York, Pa.
Robinson Mfg. Co., Muncy, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brookyn
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N.Y.
Sprout Waldron & Co., Muncy, Pa.
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Mach. Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.
Turbo Mixer Corp., 247 Park Ave., N.Y.
Waterville Foundry & Machine Co., Waterville, N.Y.

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Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N.Y.
F. J. Stokes Machine Co., Phila.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

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MONTAN WAX (See WAXES)

MOP HANDLES

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Amer. Standard Mfg. Co., 2509 Lime St., Chicago
Stanley H. Coffin, 12 Pearl St., Boston
Continental Car-Na-Var Corp., Brazil, Ind.
Eagle Woodenware Mfg. Co., Hamilton, O.
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Erie Mop & Wringer Co., East Syracuse, N.Y.
Howard Dustless Duster Co., Boston
W. E. Kautenberg Co., Freeport, Ill.
Massasoit Mfg. Co., 233 Broadway, N.Y.
Palmer Prods., Inc., Waukesha, Wis.
Silver-Chamberlin Co., Clayton, N.Y.
White Mop Wringer Co., Fultonville, N.Y.

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Dobbins Mfg. Co., North St. Paul, Minn.
Eagle Woodenware Mfg. Co., Hamilton, Ohio
Economy Mop Wringer Co., 1944 W. 21st St., Chicago
Geuder, Paesche & Frey, Milwaukee, Wis.
Illinois Duster Co., 1944 Webster Ave., Chicago
S. C. Lawlor Co., 124 N. Curtis St., Chicago
Muskegon Sanitary Supply Co., Muskegon Heights, Mich.
Palmer Prods., Inc., Waukesha, Wis.
Sanitary Mfg. Co., 926 Ft. Wayne Ave., Indianapolis
Tarbox Lever Corp., 61 Chandler St., Buffalo
White Mop Wringer Co., Fultonville, N.Y.

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Eagle Woodenware Mfg. Co., Hamilton, O.
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White Mop Wringer Co., Fultonville, N.Y.

MOPS

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Amer. Standard Mfg. Co., 2509 S. Green St., Chicago
Burdett-Rose Mfg. Co., 6100 Independence Rd., Kansas City, Mo.
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Klenzall Mfg. Co., Atlanta, Ga.
Palmer Prods., Inc., Waukesha, Wis.
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M. J. Toohey & Co., Fall River, Mass.
Tuscaloosa Mills, Tuscaloosa, Ala.
Tu-Way Products Co., 445 W. Jefferson Ave., Detroit, Mich.
Yocma Mills, Water Valley, Miss.

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Clifton Chemical Co., 247 Front St., N.Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hockwald Chem. Co., 30 Bluxome St., San Francisco
Hunt Mfg. Co., Lisbon Rd., Cleveland
McCormick & Co., Inc., Baltimore, Md.
Merck & Co., Rahway, N. J.
Palmer Prods., Inc., Waukesha, Wis.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
White Tar Co., Kearny, N. J.

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Associated Chemists, Inc., 6234 S. Ashland Ave., Chicago
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Edelman Co., 6249 S. St. Lawrence Ave., Chicago
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
General Dyestuffs Corp., 435 Hudson St., N.Y.
R. W. Greeff & Co., 10 E. 40th St., N.Y.
Merck & Co., Rahway, N. J.
Midway Chemical Co., 5235 W. 65th St., Chicago
John Powell & Co., 114 E. 31st St., N.Y.
Trojan Products & Mfg. Co., 3130 S. Wabash Ave. ,Chicago
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Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Neville Co., Pittsburgh
Reilly Tar & Chem. Corp., Indianapolis
Republic Chemical Co., 94 Beekman St., N.Y.
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White Tar Co., Kearny, N.J.

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Pennsylvania Refining Co., Butler, Pa.
Petroleum By-Products Co., 15 Whitehall St., N.Y.
Republic Chemical Co., 94 Beekman St., N. Y.
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Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N.Y.C.
Lukens Steel Corp., Coatesville, Pa.
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Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Co., 929 Public Ledger Bldg., Phila.
Leghorn Trading Co., 155 E. 44th St., N.Y.
J. H. Redding Co., 17 Battery Pl., N.Y.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Smith-Weihman Co., 15 Moore St., N.Y.
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

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E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Faesy & Besthoff, Inc., 22 E. 40th St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
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ARSENIC TRICHLORIDE, ANHYDROUS
MONOCHLOR BENZENE
ORTHO DICHLOR BENZENE
PARA DICHLOR BENZENE
TRICHLOR BENZENE 1:2:4
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AMMONIUM BENZOATE
ACETAMIDE
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PROPIONYL CHLORIDE
BUTYRYL CHLORIDE
ISO PROPYL CHLORIDE
SULFURYL CHLORIDE
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METHYL CYCLO HEXANOL
PIPERIDINE
DIBENZYL DISULPHIDE
METHYL STEARATE

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National Can Co., 110 E. 42nd St., N.Y.
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Pittsburgh Can Co., Pittsburgh, Pa.
Pressed Steel Tank Co., 5717 Greenfield Ave., Milwaukee, Wis.
John Trageser Steam Copper Works, Grand Ave., Maspeth, L. I., N.Y.
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Wheeling Corrugating Co., Wheeling, W. Va.
Wilson & Bennett Mfg. Co., 6532 S. Menard Ave., Chicago

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Eagle Woodenware Mfg. Co., Hamilton, O.
Gambrinus Cooperage Works, 930 Mason St., Louisville, Ky.
Impervious Package Co., Keene, N. H.
Menasha Woodenware Co., Menasha, Wis.
Richmond Cedar Works, Richmond, Va.

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(see also Brokers and Dealers)

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PAPER (Corrugated) (see BOXES, CORRUGATED)

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Louis Dejonge & Co., 155—6th Ave., N.Y.
DuPont Cellophane Co., 350—5th Ave., N.Y.
C. J. Fox Co., 236 Abron St., Providence, R. I.
Fox Paper Co., Lockland, Cincinnati, O.
Hampden Glazed Paper & Card Co., Holyoke, Mass.
Henderson Lithographing Co., Cincinnati
Keller-Dorain Paper Co., 390—4th Ave., N.Y.
New England Card & Paper Co., 10 Hanover St., Springfield, Mass.
Pictorial Package Co., Aurora, Ill.
Marquette Lithograph Co., 730 N. Franklin St., Chicago
Nashua Gummed & Coated Paper Co., Nashua, N. H.
Potomac Lithograph Mfg. Co., Washington, D. C.
Richardson Co., Lockland, O.
Geo. Schmitt & Co., Grand & Florence Sts., Brooklyn
Louis Schulman Co., 465 Broome St., N.Y.
Strobridge Lithographing Co., Norwood Station, Cincinnati
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Transcello Paper Co., Milwaukee, Wisc.
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Niagara Alkali Co., 9 E. 41st St., N. Y.
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Standard Oil Co., (N.J.) 26 Broadway, N.Y.
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Strohmeyer & Arpe Co., 139 Franklin St., N.Y.
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A. C. Drury & Co., 219 East North Water St., Chicago
Gulf Refining Co., Pittsburgh
S. Schwabacher & Co., 25 Beaver St., N. Y.
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Shell Petroleum Corp., Shell Bldg., St. Louis
Skelly Oil Co., 121 W. Wacker Drive, Chicago
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Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
Standard Oil Co., (Ohio) Midland Bldg., Cleveland

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Gulf Refining Co., Frick Annex, Pittsburgh
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O'Connor & Kremp, 11 W. 42nd St., N.Y.
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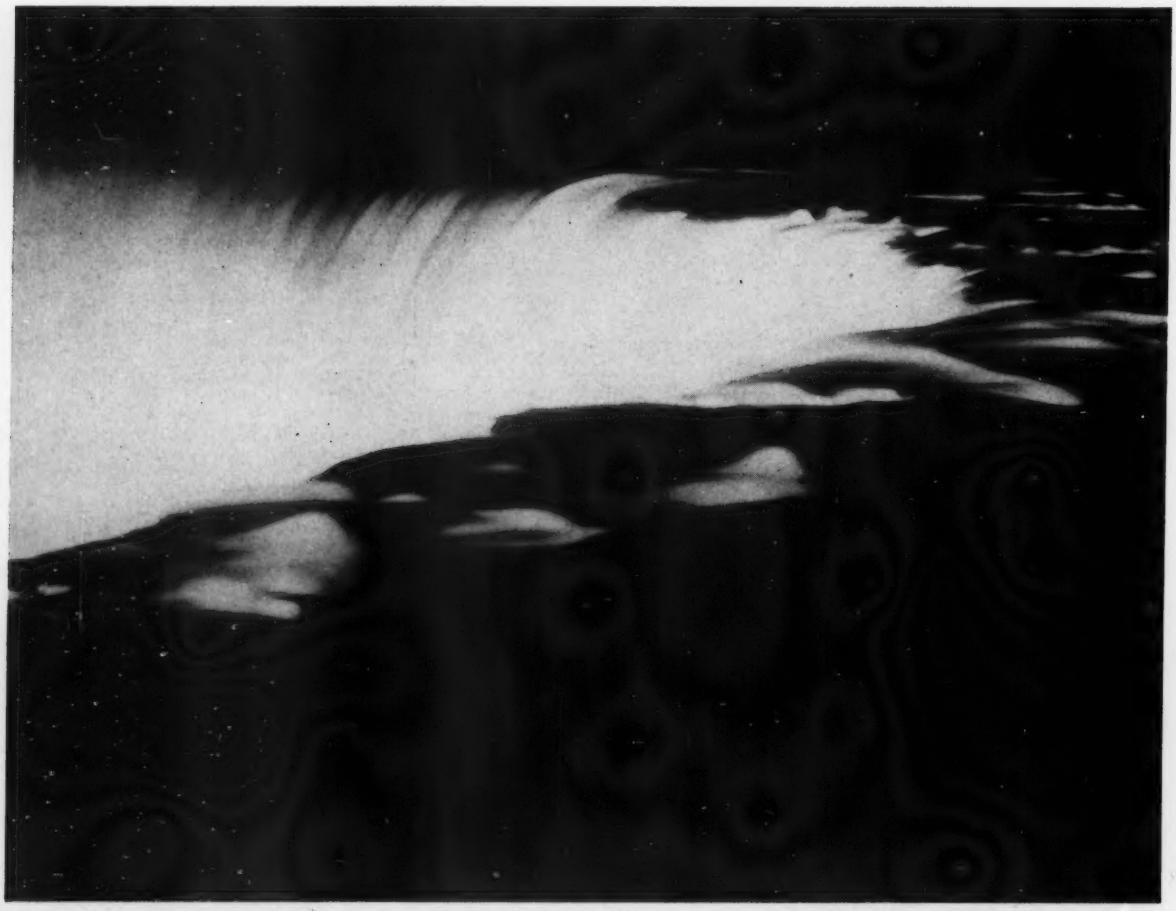

POTASH, CAUSTIC (Cont'd)

T. G. Cooper & Co., 47 N. 2nd St., Phila.
E. I. Du Pont de Nemours & Co., Wilmington, Del.
Faesy & Besthoff, 22 E. 40th St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Niagara Alkali Co., 9 E. 41st St., N.Y.
E. M. Sergeant Pulp & Chem. Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630—5th Ave., N.Y.
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

POTASH SOAPS

Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
James Counts Soap Co., 2nd & Washington Aves., St. Louis, Mo.
Creco Co., Creco Bldg., L. I. City, N.Y.
Crystal Soap & Chem. Co., Tacony, Phila.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Davies Young Soap Co., Dayton, Ohio
Eagle Soap Corp., Huntington, Ind.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Genseke Bros., W. 48th Pl. & Whipple St., Chicago, Ill.
James Good, Inc., Kensington, Phila.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Harley Soap Co., 2832 E. Pacific St., Phila.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
Holbrook Mfg. Co., Cole & 18th St., Jersey City
R. M. Hollingshead Corp., Camden, N. J.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Kranich Soap Co., 54 Richards St., Brooklyn
Laurel Soap Mfg. Co., Tioga & Almond Sts., Phila.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., Los Angeles, Calif.
Masury-Young Co., 76 Roland St., Boston
Moore Bros. Co., 200 Hudson St., N.Y.
National Oil Products Co., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Washington
North Coast Chem. & Soap Wks., Seattle, Wash.
Palmer Prods., Inc., Waukesha, Wis.
Paper Makers Chemical Corp., Kalamazoo, Mich.
Peck's Prod. Co., 5224 N. 2nd St., St. Louis
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Royal Soap & Chem. Co., 5111 S. Central Ave., Los Angeles
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Standard Oil Co., (Ohio) Midland Bldg, Cleveland
John T. Stanley Co., 642 W. 30th St., N.Y.
Tremco Mfg. Co., 393 East 131st St., Cleveland
Trojan Products & Mfg. Co., 3130 S. Wabash Ave., Chicago
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Chas. W. Young & Co., Phila.

POTASSIUM CARBONATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Faesy & Besthoff, 22 E. 40th St., N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Harshaw Chem. Co., Cleveland
Niagara Alkali Co., 9 E. 41st St., N.Y.
E. M. Sergeant Pulp & Chemical Co., 350—5th Ave., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

POTASSIUM PERSULFATE

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Buffalo Elec. Chem Co., River Rd. & Sawyer Ave., Buffalo
E. I. du Pont de Nemours & Co., Wilmington, Del.
Jungmann & Co., 157 Chambers St., N.Y.
E. M. Sergeant Pulp & Chemical Co., 350—5th Ave., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

POTASSIUM SILICATE

E. I. du Pont de Nemours & Co., Wilmington, Del.
Phladelphia Quartz Co., 125 S. 3rd St., Phila.

POWDER GUNS (see BELLOWS)

POWDERED SOAP (see SOAP, POWDERED) Do not confuse with SOAP POWDERS

PREMIUMS

Anchor-Hocking Glass Corp., 22 Queens St., Long Island City, N.Y. (Glassware)
Hazel-Atlas Glass Co., Wheeling, W. Va. (glassware)
Holgate Co., Kane, Pa. (woodenware toys)
Premium Service Co., 9 W. 18th St., N. Y. (all)
Goody Mfg. Co., 15 E. 22nd St., N. Y. (novelties)
Keystone Processed Prods. Co., 115 E. 23rd St., N.Y. (silks, etc.)
Nesbit Metal Prods. Co., 230 Park Ave., N.Y. (metal)

PRESSES (Automatic Soap)

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati, O.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

PRESSES (Foot and Hand Lever for Soap and Para Cakes)

Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
F. J. Stokes Mach. Co., Philadelphia, Pa.

PRIVATE FORMULAS (see under individual products)

PULVERIZERS (see GRINDING MACHINERY)

PUMICE STONE (see ABRASIVES and FILLERS)

PUMP GUNS (for Insecticides) (see SPRAYERS, see BELLOWS)

PUMPS

Aldrich Pump Co., 1 Pine St., Allentown, Pa.
Alsop Engineering Corp., 384 Main St., Milldale, Conn.
American Steam Pump Co., Battle Creek, Mich.
Beach-Russ Co., 50 Church St., N.Y.
Blackmer Pump Co., Grand Rapids, Mich.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Buffalo Forge Co., 490 Broadway, Buffalo, N.Y.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
M. T. Davidson Co., 154 Nassau St., N.Y.
Foster Pumps, Inc., Seneca Falls, N.Y.
Goulds Pumps, Inc., Seneca Falls, N.Y.
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Ingersoll-Rand Co., 11 Broadway, N.Y.
Karl Kiefer Machine Co., Cincinnati
Lobee Pump & Machine Co., 129 Dearborn St., Buffalo, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
P. H. & F. M. Roots Co., Connersville, Ind.
Scientific Filter Co., 1 Franklin Square, N.Y.
T. Shriver & Co., Harrison, N.J.
F. J. Stokes Machine Co., Philadelphia, Pa.
Taber Pump Co., 278 Elm St., Buffalo, N.Y.
Viking Pump Co., Cedar Falls, Iowa
Worthington Pump & Machinery Co., 2 Park Ave., N.Y.

PYRETHRUM

Allaire Woodward & Co., Peoria, Ill.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Derris, Inc., 79 Wall St., N.Y.
Hammond Paint & Chemical Co., Beacon, N.Y.
J. L. Hopkins & Co., 220 Broadway, N.Y.
McCormick & Co., Baltimore, Md.

FOR THE INSECTICIDE MANUFACTURER

Killing Power— That's the thing!

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REG. U.S. PAT. OFF
PRESENTS

BASIC Pyrethrum Extracts made by a NATURAL cold process which gives you guaranteed KILLING POWER, free from a chemical or "cooked" odor. Both the regular and odorless types are made right in the oils in which they are shipped to you.

HIGH Test Pyrethrum Powder milled to the proper degree of fineness to suit YOUR particular requirements.

ROTENONE products of Cube or Derris, extracts, powders or Chemically Pure Crystals. Selected materials of highest quality, carefully manufactured.

STANDARDIZATION by SPECIALISTS, careful control by chemists and entomologists, assures you that your basic material will be trouble-free as long as it is POWCO BRAND.

JOHN POWELL & CO., Inc.

Specialists in Pyrethrum & Rotenone

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PYRETHRUM (Cont'd)

McLaughlin, Gormley King Co., 1715—5th St., S. E., Minneapolis, Minn.
S. B. Penick & Co., 132 Nassau St., N. Y.
John Powell & Co., 114 E. 32nd St., N.Y.
R. J. Prentiss & Co., 100 Gold St., N.Y.

PYRETHRUM EXTRACT

Allaire Woodward & Co., Peoria, Ill.
An-Fo Mfg. Co., 3129 Elmwood Ave., Oakland, Cal.
Hammond Paint & Chemical Co., Beacon, N.Y.
J. L. Hopkins & Co., 220 Broadway, N.Y.
McCormick & Co., Baltimore
McLaughlin Gormley King Co., 1715—5th St., S. E., Minneapolis
S. B. Penick & Co., 132 Nassau St., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
R. J. Prentiss & Co., 114 E. 32nd St., N.Y.

RAPESEED OIL

Balfour, Guthrie & Co., 67 Wall St., N.Y.
Irving R. Boody & Co., 99 Wall St., N.Y.
T. G. Cooper & Co., 47 N. 2nd St., Phila.
Leghorn Trading Co., 155 E. 44th St., N.Y.
J. H. Redding, Inc., 17 Battery Pl., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Snow Brokerage Co., 21 West St., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

RAT EXTERMINATING PRODUCTS

American Fluoride Corp., 151 W. 19th St., N.Y.
Associated Chemists, Inc., 6243 S. Ashland Ave, Chicago
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Eagle Soap Corp., Huntington, Ind.
Exterminating Materials Co., 712 Amsterdam Ave., N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Goulard & Olena, Inc., 140 Liberty St., N.Y.
Foote Mineral Co., 1609 Summer St., Phila.
Hockwald Chem. Co., 30 Bluxome St., San Francisco
J. L. Hopkins & Co., 220 Broadway, N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Lethelin Products Co., Manhasset, N.Y.
John Opitz, Inc., Long Island City, N.Y.
Pfaltz & Bauer, Inc., 350—5th Ave., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
Ratin Laboratories, Inc., 112 Broad St., N.Y.
Sennewald Drug Co., 8th & Hickory Sts., St. Louis.
Soilicide Laboratories, Upper Montclair, N. J.
Trojan Products & Mfg. Co., 3130 S. Wabash Ave., Chicago
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Virus Limited, Inc., 10 E. 33rd St., N.Y.

RAT POISONS (see SQUILLS, THALLIUM SULFATE, etc.)

RED OIL (Oleic Acid)
(see also Brokers and Dealers)

American British Chem. Supplies, Inc., 180 Madison Ave., N.Y.
American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Celina Stearic Acid Co., Celina, Ohio
Century Stearic Acid Candle Works, 22 E. 40th St., N.Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 122 E. 42nd St., N.Y.
W. C. Hardesty & Co., 41 E. 42nd St., N.Y.
Harkness & Cowing, Ivordale, Cincinnati
Procter & Gamble Co., Cincinnati
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Theobald Animal By-Products Co., Kearny, N. J.
M. Werk Co., St. Bernard, Cincinnati
Wilson-Martin Co., Snyder Ave. & Swanson St., Philadelphia

REFINING EQUIPMENT (Glycerine)

E. B. Badger Co., 25 Pitts St., Boston
Buffalo Foundry & Machine Co., Buffalo, N.Y.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)

What specifications?

DO YOU KNOW THAT SPECIFICATIONS FOR NUMEROUS TYPES OF SOAPS . . . CHIP SOAP, FLOATING SOAP, SOAP POWDER, MECHANIC'S HAND SOAP, MILLED TOILET SOAP, ETC. . . . AS WELL AS SWEEPING COMPOUND, FLOOR WAXES, INSECT POWDER, ETC. . . . LIQUID INSECTICIDE, DISINFECTANTS, ETC. . . . U. S. GOVERNMENT SPECIFICATIONS . . . OFFICIAL N. A. I. D. M. SPECIFICATIONS . . . ARE GIVEN IN CONDENSED FORM IN THE REFERENCE SECTION OF THIS BOOK BEGINNING ON PAGE 133.

THE PUBLISHERS.

WILLIAM GARRIGUE & CO., INC.

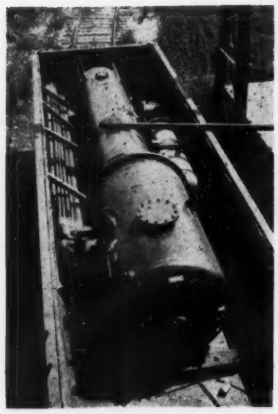
ESTABLISHED 1899

9 S. Clinton St., Chicago, Ill.

Cable Address: "WILGARGUE"

GARRIGUE Extractor in Pharmaceutical Plant

Contracting and Consulting Engineers Specializing in Equipment for the Fats and Oils Industries



GARRIGUE Column Type Glycerine Still

GARRIGUE Vacuum Deodorizer

COMPLETE EQUIPMENT FOR

Crude Glycerine Recovery

Single and Multiple Effect Evaporators for the Recovery of Glycerine from Spent Soap Lyes, from Sweetwaters from Fat Splitting Plants, and from Glycerine Distillation Plant Foots.

Glycerine Refining

For the Production of Dynamite and Chemically Pure Grades from Crude Glycerine. Our Column Type Still operating at 12 to 25 mm. absolute pressure produces a Distilled Glycerine of the highest purity. Chemically Pure Glycerine in one distillation.

Fatty Acid Distillation

High Vacuum Operation. Can be built of aluminum or stainless alloy steels for special products.

Edible Oil Refining, Bleaching and Deodorizing

Complete Installations for Operation on Corn, Cottonseed, Cocoanut, and other Oils. Built in any capacity.

Oil Hardening

For Oils to be used for Edible Purposes and also for Technical Uses.

Compound or Vegetable Lard

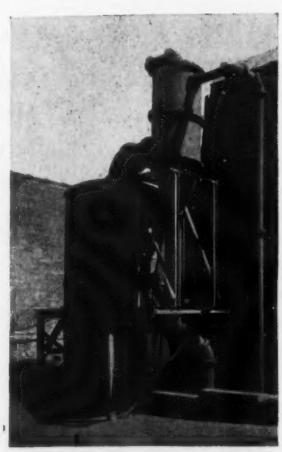
Using either Mixed or All Hydrogenated Fats and Oils. Complete with Refrigerating Equipment.

Winter Oil Production

Closed Tank System simplifies operation and reduces operating costs.

Oil Extraction and Degreasing

For Degreasing or Extracting Various Materials with Solvents of all kinds.



GARRIGUE Barometric Condenser and Catchall

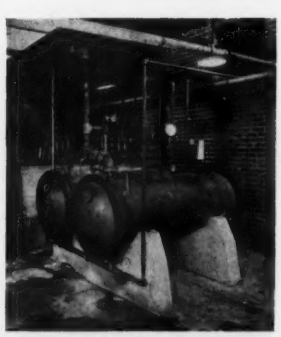
GARRIGUE Glycerine Evaporator

OTHER CHEMICAL EQUIPMENT

Built to Purchaser's Specifications or from Designs developed by us.

ENGINEERING SERVICES

Estimates and Appraisals. Design and Operation of Plants and Equipment. Development of New Processes.



Receivers for GARRIGUE Fatty Acid Distillation Plant

REFINING EQUIPMENT (Glycerine) (Cont'd)

William Garrigue & Co., 9 S. Clinton St., Chicago
Alan Porter Lee, Inc., 136 Liberty St., N.Y.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Ernest Scott & Co., Fall River, Mass.
Walter E. Simmons Co., Boston
Struthers-Wells Co., Warren, Pa.
Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago
Zaremba Co., 506 Crosby Bldg., Buffalo, N.Y.

REFRIGERATING EQUIPMENT

York Ice Machine Co., York, Pa.

REMELTERS

Consolidated Products Co., 15 Park Row, N.Y. (Used)
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Lancaster Iron Works., 564 S. Prince St., Lancaster, Pa.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Mach. Co., East Liverpool, O.
Struthers-Wells Co., Warren, Pa.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

RHODINOL (see AROMATIC CHEMICALS)

ROACH POWDER (see HOUSEHOLD INSECTICIDE POWDER)

ROSE OIL (see ESSENTIAL OILS)

ROSEMARY OIL (see ESSENTIAL OILS)

ROSIN

Antwerp Naval Stores Co., Savannah, Ga.
Continental Turp. & Rosin Corp., Laurel, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
General Naval Stores Co., 230 Park Ave., N.Y. (Wood)
Georgia Rosin Prods. Co., Brunswick, Ga.
Guignon & Green, 17 Battery Pl., N.Y.
Hercules Powder Co., Wilmington, Del (Wood)
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Paper Makers Chemical Corp., Kalamazoo, Mich.
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Taylor, Lowenstein & Co., Mobile, Ala.
G. A. Wharry & Co., 24 State St., N.Y.

ROTENONE (see CUBE and DERRIS)

ROTTEN STONE (see ABRASIVES and FILLERS)

RUBBER STOPPERS see LABORATORY APPARATUS

RUG and UPHOLSTERY CLEANERS

Candy & Co., 2515 W. 35th St., Chicago, Ill.
Clifton Chemical Co., 247 Front St., N.Y.
Davies-Young Soap Co., Dayton O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Philadelphia, Pa.
National Oil Prods. Co., Harrison, N. J.
Palmer Prods., Inc., Waukesha, Wis.

SADDLE SOAP

Asco Chemical Co., 239 Alabama Ave., Bklyn., N.Y.
R. M. Hollingshead Corp., Camden, N. J.
Rome Soap Mfg. Co., Rome, N.Y.

SAFROL (see AROMATIC CHEMICALS)

SAL AMMONIAC (see AMMONIUM CHLORIDE)

SAL SODA
(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Church & Dwight Co., 70 Pine St., N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Mechling Bros. Chemical Co., Camden, N.J.
Michigan Alkali Co., 10 E. 40th St., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

SALT (Common Salt)
(see also Dealers)

Columbia Alkali Co., 30 Rockefeller Plaza, N.Y.
Diamond Alkali Co., First Nat. Bk. Bldg., Pittsburgh
Dow Chemical Co., Midland, Mich.
Hooker Electrochemical Co., 60 E. 42nd St., N.Y.
International Salt Co., 475—5th Ave., N.Y.
Jefferson Salt & Mining Co., Louisville, Ky.
LeRoy Salt Co., LeRoy, N.Y.
Myles Salt Co., 1007 Camp St., New Orleans, La.
Pomeroy Salt Co., Pomeroy, Ohio
Remington Salt Co., Ithaca, N.Y.
Saginaw Salt Prods. Co., Saginaw, Mich.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

SALT WATER SOAP

Armour Soap Wks., 1355 W. 31st St., Chicago
J. Eavenson & Sons, Camden, N. J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles
Newell-Gutradt Co., San Francisco
Peck's Products Co., St. Louis, Mo.
Procter & Gamble Co., Cincinnati, O.
John T. Stanley Co., 642 W. 30th St., N.Y.
M. Werk Co., Cincinnati

SAMPLE CASES

Arrow Mfg. Co., 15 & Hudson Sts., Hoboken, N.J.
Knickerbocker Case Co., 2311 N. Crawford Ave., Chicago

SAND, see ABRASIVES

SANDALWOOD OIL (see ESSENTIAL OILS)

SAPONIN (Ext. Soap Bark)

Associated Chemists, Inc., 6243 S. Ashland Ave., Chicago
Dodge & Olcott Co., 180 Varick St., N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Fritzsche Brothers, Inc., 76 Ninth Ave., N.Y.
Hoffman-LaRoche, Inc., Nutley, N. J.
Interstate Color Co., 5 Beekman St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Geo Lueders & Co., 427 Washington St., N.Y.
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 132 Nassau St., N.Y.
Pfaltz & Bauer, Inc., 350—5th Ave., N.Y.
Ungerer & Co., 13 W. 20th St., N.Y.

SASSAFRAS, Artifical (see AROMATIC CHEMICALS)

SCIENTIFIC INSTRUMENTS (see INSTRUMENTS)

SCOURING POWDERS

American Soap Powder Wks., Inc., 98 Van Dyke St., Brooklyn
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Cincinnati Soap Co., Cincinnati
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati, O.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hercules Powder Co., Wilmington
Hockwald Chem. Co., 30 Bluxome St., San Francisco
Hubman Supply Co., 225 N. 4th St., Columbus, O.

STANLEY'S SOAP SINCE 1865

PRIVATE BRANDS

TOILET SOAPS

LAUNDRY SOAPS

SCOURING SOAPS

SCOURING POWDERS

SHAVING SOAPS

SHAMPOOS

POTASH SOAPS

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PRIVATE Brand . . . or otherwise . . . your problem as a Soap Jobber or Buyer is primarily to service your accounts with Supreme Quality Soaps at the best possible prices.

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Your requirements . . . no matter how large or how small . . . are produced with the same high standard of impeccable perfection.

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SCOURING POWDERS (Cont'd)

Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
National Milling & Chem. Co., Manayunk, Phila.
Pacific Chem. Co., 1412 N. Main St., Los Angeles
Peck's Prods. Co., 5224 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Solvay Sales Corp., 40 Rector St., .Y.
John T. Stanley Co., 642 W. 30th St, N.Y.
Stevens Soap Corp., 200 Sullivan St., Brooklyn
Swift & Co., Chicago
Trojan Products & Mfg. Co., 3130 S. Wabash Ave., Chicago
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
V. C. Products Co., Phidalephia
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SCOURING SOAPS (Bars)

Armour Soap Wks., 1355 W. 31st St., Chicago
Cudahy Packing Co., 221 N. La Salle St., Chicago
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles
National Soap Co., P. O. Box 1613, Tacoma, Wash.
Procter & Gamble, Cincinnati, O.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St, N.Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SCREENS (Screening Equipment)

C. O. Bartlett & Snow Co., 6200 Harvard Ave., Cleveland, O.
B. F. Gump Co., 431 S. Clinton St., Chicago
J. H. Day Co., Cincinnati
J. M. Lehmann Co., 248 W. Broadway, N.Y.
Ludlow-Sawyer Wire Co., St. Louis, Mo.
Sprout, Waldron & Co., Muncy, Pa.
Stedman's Fdy. & Machine Works, Aurora, Ind.
Stephens-Adamson Mfg. Co., Aurora, Ill.
Sturtevant Mill Co., Boston, Mass.
W. S. Taylor Co., Cleveland, O.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Wickwire Spencer Steel Co., 41 E. 42nd St., N.Y.

SCRUBBING MACHINES (see FLOOR MACHINES)

SCRUBBING SOAPS, LIQUID (see FLOOR SCRUB SOAPS)

SEALING MACHINERY (Bags)

B. F. Gump Co., 431 S. Clinton St., Chicago
New Jersey Machine Corp., Hoboken, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

SEALING MACHINERY (Cartons)

Burt Machine Co., 401 E. Oliver St., Baltimore
Consolidated Products Co., 15 Park Row, N.Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
Johnson Automatic Sealer Co., Battle Creek, Mich.
R. A. Jones & Co., Cincinnati, O.
New Jersey Machine Corp., Hoboken, N.J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Norfolk Downs, Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 906 Spaulding Ave., Chicago

SEALING MACHINERY (Cases)

H. R. Bliss Co., Niagara Falls, N. Y.
Burt Machine Co., 401 E. Oliver St., Baltimore
Consolidated Products Co., 15 Park Row, N.Y. (Used)
J. L. Ferguson Co., Joliet, Ill.
Karl Kiefer Machine Co., Cincinnati, O.
McStay Machine Co., 3036 E. 5th St., Los Angeles
J. L. Morrison Co., Niagara Falls, N.Y.
Nashua Package Sealing Co., Nashua, N. H.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Standard Sealing Equipment Corp., Rawson St., Long Island City, N.Y.

SEEDS, POISONED (see POISONED SEEDS)

SESQUICARBONATE OF SODA (for Bath Salts, etc.), (see SODIUM SESQUICARBONATE)

SHAMPOO BASE and LIQUID

Antiseptol Co., 5524 Northwest Highway, Chicago
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 247 Front St., N.Y.
Columbia Soap & Chem. Co., Inc., 324 Leavenworth St., San Francisco
James Counts Soap Co., 2nd & Washington Aves., St. Louis
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good. Inc., Kensington, Phila.
Haag Laboratories, Inc., 6101 S. May St., Chicago
Harley Soap Co., 2832 E. Pacific St., Phila.
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Jansen Soap & Chemical Co., 324 Leavenworth St., San Francisco, Cal.
Kranich Soap Co., 54 Richards St., Brooklyn
Los Angeles Soap Corp., 294 Pearl St., N.Y.
Palmer Products, Inc., Waukesha, Wis.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
John Powell & Co., 114 E. 32nd St., N.Y.
Procter & Gamble Co., Cincinnati
Theo B. Robertson Prods. Co., 700 W. Division St., Chicago
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St, N.Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAMPOOS, POWDER AND CAKE

Cincinnati Soap Co., Cincinnati
Davies-Young Soap Co., Dayton, O.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N.J.
North Coast Chem. & Soap Wks., Seattle, Wash.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
John Powell & Co., 114 E. 32nd St., N.Y.
Geo A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St, N.Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAMPOOS, SOAPLESS

Davies-Young Soap Co., Dayton, O.
Fuld Bros., 702 S. Wolfe St., Baltimore
Michel Export Co., 95 Broad St., N.Y.
National Oil Products Co., Harrsion, N. J.
Procter & Gamble Co., Cincinnati
Richards Chemical Works, Jersey City, N. J.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N.Y.

SHAVING CREAM

Cincinnati Soap Co., Cincinnati
Clifton Chemical Co., 247 Front St., N.Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Procter & Gamble Co., Cincinnati
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAVING CREAM BASE

Clifton Chemical Co., 247 Front St., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

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REG. U.S. PAT. OFF

•NEUTRAL POWDERED SOAPS

A type to fit every formula—simply because there isn't any one soap that will work in all formulas. That's why POWCO BRAND soaps give you the characteristics you need for your particular purpose.

POWCO BRAND soaps are *laboratory controlled* to maintain rigid uniformity of physical and chemical properties so that, once you have adopted a POWCO BRAND soap, your base does not vary. That's why chemists like them! POWCO BRAND soaps are made from refined edible oils and cover a wide range of titres. That's why one of them will fit your formula better.

We urge you to carefully consider POWCO BRAND — for better quality at a saving.

•CONCENTRATED SHAVING CREAM BASE

This base removes all the uncertainty from shaving cream manufacture. A simple product which eliminates the risk of costly production failures or changes in your cream after distribution. Send for a sample.

•HIGH-TEST PERSIAN QUINCE SEED

Carefully selected for highest mucilage-content, POWCO BRAND Quince Seed assures you of dependable results where dependability counts most. Every lot is scrupulously tested.

JOHN POWELL & CO., Inc.

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NEW YORK, N. Y.

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Cincinnati Soap Co., 7th & Elm St., Cincinnati
Colgate-Palmolive-Peet Co., Jersey City, N. J.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Hewitt Soap Co., Dayton, O.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Los Angeles Soap Co., Los Angeles
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St, N.Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHIPPING CASES (see BOXES)

SHEEP DIPS (see CATTLE DIPS)

SHELLAC

Barrett Varnish Co., 2242 Belmont Ave., Chicago
Berry Bros., 211 Leib St., Detroit, Mich
Chas. Comerford Shellas Co., 509 Third Ave., Brooklyn, N.Y.
Gillespie-Rogers-Pyatt Co., 80 John St., N.Y.
A. R. Haeuser Co., 52 Warren St., Brooklyn
George H. Lincks, 123 Front St., N.Y.
Mac-Lac Co., Inc., 80 Cliff St., N.Y.
A. G. Watt Co., 7016 Euclid Ave., Cleveland, O.
Wm. Zinsser & Co., 516 W. 59th St., N.Y.

SIFTER TOP CANS (see CANS, Sifter Top)

SIFTING EQUIPMENT (see SCREENS)

SILICA

American Colloid Co., 363 W. Superior St., Chicago
Central Silica Corp., Comer Bldg., Birmingham, Ala.
Chas. B. Chrystal Co., 11 Park Pl., N.Y.
Dicalite Co., 120 Wall St., N.Y.
Goris & Arnstein, 3700 Racine Ave., Chicago
K. F. Griffiths & Co., 110 E. 42nd St., N.Y.
Hammill & Gillespie, 225 Broadway, N.Y.
Harshaw Chem. Co., Cleveland
Illinois Silica Co., Cairo, Ill.
Innis, Speiden & Co., 117 Liberty St., N.Y.
International Silica Co., Cairo, Ill.
N. J. Pulverizing Co., 15 Park Row, N.Y.
Pennsylvania Pulverizing Co., Lewistown, Pa.
Jas. H. Rhodes & Co., 153 W. Austin Ave., Chicago
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Silica Prods. Co., 700 Baltimore Ave., Kansas City, Mo.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Tamms Silica Co., 228 N. La Salle St., Chicago
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

SILICATE OF SODA (see SODIUM SILICATE)

SLABBERS (see SOAP MACHINERY)

SOAP BARK & EXTRACT (see SAPONIN)

SOAP, CASTILE (see CASTILE SOAP)

SOAP, CHIP (see CHIP SOAP)

SOAP, FLAKE (see CHIP SOAP)

SOAP, LINSEED OIL (see POTASH SOAPS)

SOAP, POWDERED (White neutral powdered soap, powdered castile soap, etc. Do not confuse with Soap Powders.)

Armour Soap Wks., 1355 W. 31st St., Chicago
Conti Products Corp., 155 Varick St., N.Y.
Holbrook Mfg. Co., Cole & 18th Sts., Jersey City
J. L. Hopkins & Co., 220 Broadway, N.Y.
Kranich Soap Co., 54 Richards St., Brooklyn, N.Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
S. B. Penick & Co., 132 Nassau St., N.Y.
John Powell & Co., 114 E. 32nd St., N.Y.
R. J. Prentiss & Co., 100 Gold St., N.Y.
Procter & Gamble Co., Cincinnati

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PUT THIS ONE IN ITS PLACE IN YOUR DESK . . . THE 1937 **BLUE BOOK** IS NOW OUT-OF-DATE . . . OBSOLETE . . . CONTAINS ADDRESSES WHICH HAVE SINCE BEEN CHANGED . . . AND OTHER INFORMATION WHICH WAS NEW A YEAR AGO . . . BUT IS NOW OLD . . . AND POSSIBLY WRONG DISCARD THAT OLD 1937 EDITION **NOW!** USE THIS 1938 EDITION FROM NOW ON.

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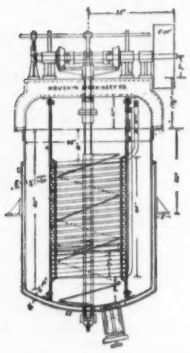
HOUCHIN MACHINERY CO., Inc.

HAWTHORNE, N. J., U. S. A.

Special Crutcher



Ideal for shaving soaps. Kettle of nickel clad steel. Coil and blades of monel metal.

Manufacturers of Soap Making Equipment

for making

LAUNDRY SOAP — TOILET SOAP

TEXTILE SOAP — CASTILE SOAP

SCOURING SOAP — CAKE, PASTE & POWDER

Equipment for Making Soap by the Boiled, Half-Boiled or Cold Process.

Complete Equipment for Producing Paradichlorbenzene Blocks.

Equipped to Furnish Complete New Plants or to Remodel Old Plants.

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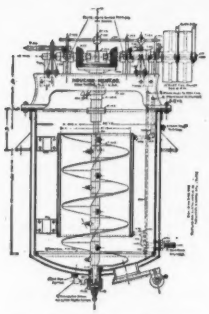
We offer our new Combination Machine consisting of special plodders and a mill. It is more economical and satisfactory than several mills and a plodder. Write for information.

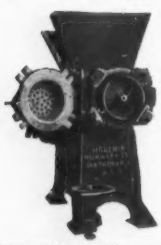
Your Inquiries Will be Appreciated.

Perfection Crutcher



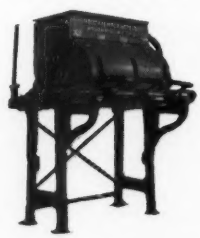
The standard machine for making cold made, half-boiled and floating soaps.

Combination Plodder



With this machine toilet soap can be produced without the aid of mills

Ideal Amalgamator



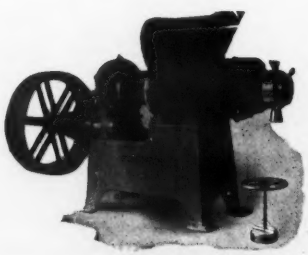
Designed so soap can be emptied into hopper of mill or plodder.

Type F Roller Mill

Rolls 18" x 40", water cooled. Heavy frames, large bearings. Gears run in oil. Gears and bearings entirely covered.

The standard plodder used in the soap industry. Is used in our mill - less method

Jumbo Plodder



SOAP, POWDERED (Cont'd)

Geo A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St, N.Y.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SOAP, WHALE OIL (see WHALE OIL SOAP)

SOAP COLORS (see COLORS)

SOAP DIES

Consolidated Products Co., 15 Park Row, N.Y. (Used)
Anthony J. Fries, 717 Sycamore St., Cincinnati
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
Jas. H. Matthews & Co., 3942 Forbes St., Pittsburgh
Mooney & Bueter, 564 W. Randolph St., Chicago
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
I. Schwartz Engraving & Die Works, 38 W. 21st St., N.Y.

SOAP DISPENSERS Liquid)

Bobrick Chemical Corp., 111-117 Garey St., Los Angeles
Bobrick Dispenser Co., 215—4th Ave., N.Y.
Clifton Chemical Co., 247 Front St., N.Y.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Garnet Chem. Corp., 911 N. Lumber St., Allentown, Pa.
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Monmouth Prods. Co., 221 E. 131st St., Cleveland
Moore Bros. Co., 200 Hudson St., N.Y.
Palmer Products, Inc., Waukesha, Wis.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

SOAP DISPENSERS (Powder)

Bobrick Chemical Corp., 111-117 Garey St., Los Angeles
Bobrick Dispenser Co., 215—4th Ave., N.Y.
Clifton Chemical Co., 247 Front St., N.Y.
Moore Bros. Co., 200 Hudson St., N.Y.
Packwood Mfg. Co., St. Louis
Palmer Products, Inc., Waukesha, Wis.
Presto Mfg. Co., 4044—20th Ave., S., Minneapolis, Minn.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
Vasco Products Co., Elmira, N.Y.

SOAP DISPENSING SYSTEMS (Multi-unit with Tanks)

Bobrick Chemical Corp., 111-117 Garey St., Los Angeles
Bobrick Dispenser Co., 215—4th Ave., N.Y.
Clifton Chemical Co., 247 Front St., N.Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Moore Bros. Co., 200 Hudson St., N.Y.
Palmer Products, Inc., Waukesha, Wis.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

SOAP DRYERS (see DRYERS)

SOAP FRAMES (see FRAMES)

SOAP KETTLES (see KETTLES)

SOAP MACHINERY

Consolidated Products Co., 15 Park Row, N.Y. (Used)
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259—46th St., Brooklyn
J. M. Lehman Co., 248 West Broadway, N.Y.

New equipment—

IF YOU ARE LOOKING FOR A SPECIAL PIECE OF EQUIPMENT . . . NEW OR OTHERWISE . . . AND YOU DO NOT FIND IT LISTED IN THIS **BLUE BOOK**, WRITE TO THE PUBLISHERS, *SOAP & SANITARY CHEMICALS*, 254 WEST 31ST STREET, NEW YORK. WE WILL MAKE EVERY EFFORT TO LOCATE IT FOR YOU.

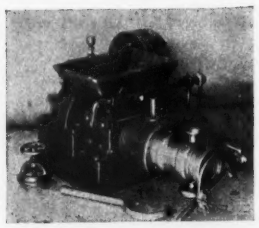
THE PUBLISHERS.

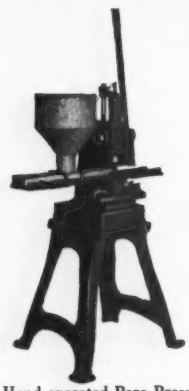
HUBER SOAP MACHINERY

"Built To Last"

LABORATORY MILL & PLODDER

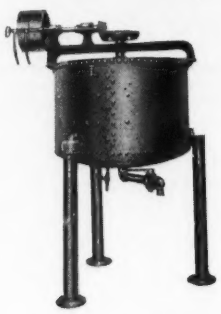
This set-up will produce a nice-looking 2½-oz. cake of soap measuring 3¾" x 1⅝" x 1". Mill rolls are Quincy granite, 4½" x 12". Plodder has 3¼" diameter screw, a cutting-off device and an electric heating element. Hand lever press also offered, powerful enough to bring up the finest engraving on a set of dies. Dies may have a renewable set of letters for making experimental cakes.



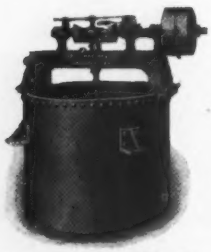


Hand operated Para Press. Very powerful. Working parts all steel. Female labor permitted. Send for particulars of our electric power press. Twenty-five blocks per minute.

Mixers for dry materials. Mixers for wet materials. Hand operated or by motor. Dumping type mixers. End outlet mixers.



Liquid soap blenders — six sizes. Cold-made soap makers—six sizes. Stainless steel cold cream producers. Shaving cream mixers, stainless steel. Motor or pulley operated. Paddle or worm agitation.



Perfection Soap Crutchers. 150 — 1500 — 2400 — 3600 lbs. cap. Electro-Perfection Crutcher, two speeds and reverse. 1500—2400—3600 lbs. capacity. Used by all large soap producers throughout the world.

We Also Feature

- Crayon Molding Machines
- Wax Molding Machines
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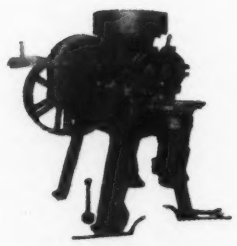
- Crayon Labellers, motorized, of great capacity
- Soft Chalk Molding Machines
  Extruded Chalk Machines
  Suppository Split Molds
- Soap Presses, Foot operated
- Soap Cutting Devices
- Completely Designed Soap Plants



Rutchman Plodders. Twin screws, large capacity, 3" —6"—8" diam. Motor operated. Rutchman Mills. In use for over 60 years. Sole manufacturer. None better.

HUBER MACHINE COMPANY

Makers of Good Soap Machines for over 40 Years

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SOAP MACHINERY (Cont'd)

Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

SOAP MIXING DEVICE (for diluting potash soap in water)

Clifton Chemical Co., 247 Front St., N.Y.
Davies-Young Soap Co., Dayton, O.
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259 46th St., Brooklyn
Read Machy. Co., York, Pa.
Solutionizer Co., 7721 S. State St., Chicago

SOAP PAPER (Soap Sheets)

Moore Bros. Co., 200 Hudson St., N.Y.
Rosefelt Sales Builders, 740 N. Plankinton Ave., Milwaukee, Wis.

SOAP POWDER MILLS

Abbe Engineering Co., 50 Church St., N. Y.
Consolidated Products Co., 15 Park Row, N.Y. (used)
Houchin Machinery Co., Hawthorne, N.J.
Huber Machine Co., 359 46th St., Brooklyn, N.Y.
J. M. Lehmann Co., 250 W. Broadway, N.Y.
Newman Tallow & Soap Machinery Co., 1051 W. 35th St. Chicago (used)

SOAP POWDERS
(Do not confuse with powdered white soap)

American Soap Powder Wks., Inc., 98 Van Dyk St., Bklyn.
Armour Soap Wks., 1355 W. 31st St., Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati
J. Eavenson & Sons, Del. & Penn Sts., Camden, N.J.
Hewitt Soap Co., Dayton, O.
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Lever Brothers Co., Cambridge, Mass.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Milling & Chem. Co., Manayunk, Phila.
North Coast Soap & Chem. Wks., Seattle, Wash.
Paper Makers Chemical Corp., Kalamazoo, Mich.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Stevens Soap Corp., 200 Sullivan St., Brooklyn
John T. Stanley Co., 642 W. 30th St., N.Y.
Swift & Co., Union Stock Yards, Chicago
Vasco Prods. Co., Elmira, N.Y.
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Chas. W. Young & Co., Phila.

SOAP PRESSES (see PRESSES)

SOAP PERFUMES

van Ameringen-Haebler, Inc., 315 4th Ave., N.Y.
Aromatic Products, Inc., 15 E. 30th St., N.Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N.Y.
Antoine Chiris Co., 115 E. 23rd St., N.Y.
Compagnie Parento, Croton, N.Y.
Dodge & Olcott Co., 180 Varick St., N.Y.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Firmenich & Co., 135 5th Ave., N.Y.
Chas. Fischbeck Co., 119 W. 19th St, N.Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N.Y.
General Drug Co., 170 Varick St., N.Y.
Givaudan-Delawanna, Inc., 80 5th Ave., N.Y.

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WHEN YOU RECEIVE A NOTICE THAT YOUR SUBSCRIPTION TO *SOAP & SANITARY CHEMICALS* IS ABOUT TO EXPIRE, WILL YOU PLEASE SEND IN THAT OLD RENEWAL CHECK PRONTO? *SOAP & SANITARY CHEMICALS* IS A MEMBER OF THE A. B. C. (AUDIT BUREAU OF CIRCULATION) AND IF YOU DO NOT RENEW PROMPTLY, WE HAVE TO TAKE YOUR NAME OFF THE SUBSCRIPTION LIST . . . (A.B.C. RULE) . . . DON'T MISS ANY ISSUES . . . SEND IN YOUR CHECK PROMPTLY . . . $3.00 FOR ONE YEAR, $5.00 FOR TWO . . . FOREIGN SUBSCRIPTIONS, $4.00 FOR ONE YEAR, $7.00 FOR TWO.

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Authority and leadership in perfumery, as in any field of art or science, come only as the result of specialized study and experience.

Our accomplishments have placed us in a position of authority among soap perfumers.

For your product, let us suggest a perfume which will increase its sales appeal.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE., NEW YORK

SOAP PERFUMES (Cont'd)

Kay-Fries Chemicals, Inc., 180 Madison Ave., N.Y.
Magnus, Mabee & Reynard, Inc., 32 Cliff St., N.Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
Schimmel & Co., 601 W. 26th St., N.Y.
Ungerer & Co., 13 W. 20 St., N.Y.
Albert Verley, Inc., 11 E. Austin Ave., Chicago

SOAP SLABBERS (see SOAP MACHINERY)

SOAP STOCK (Boiled down cotton oil soap stock, etc.)
(see also Brokers and Dealers)

T. G. Cooper & Co., 47 N. 2nd St., Phila.
Durkee Famous Foods, Inc., 2670 Elston Ave., Chicago
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Co., Cincinnati, O.
Southern Cotton Oil Co., Produce Exchange, N.Y.
A. E. Staley Mfg. Co., Decatur, Ill.

SOAPLESS DETERGENTS (see DETERGENTS, SYNTHETIC)

SOAPLESS SHAMPOOS (see SHAMPOOS, SOAPLESS)

SOAPS, AUTO (see POTASH SOAPS)

SOAPS, FLOATING (see FLOATING SOAPS)

SOAPS, LIQUID (see POTASH SOAPS)

SOAPS, MEDICINAL, CAKE (see MEDICINAL SOAPS, CAKE)

SOAPS, MOTTLED (see MOTTLED SOAPS)

SOAPS, PINE SCRUB (see FLOOR SCRUB SOAPS)

SOAPS, SCOURING (see SCOURING SOAPS)

SOAPS, SCRUBBING (see FLOOR SCRUB SOAPS)

SOAPS, SURGICAL (see POTASH SOAPS)

SOAPS, TEXTILE (see TEXTILE SOAPS)

SODA ASH
(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Columbia Alkali Corp., Barberton, Ohio
Diamond Alkali Co., 436—7th Ave., Pittsburgh
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Wks., 60 E. 42nd St., N.Y.
Michigan Alkali Co., 60 E. 42nd St., N.Y.
Niagara Alkali Co., 9 E. 41st St., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

SODA (Modified)
(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Columbia Alkali Co., Barberton, Ohio
Diamond Alkali Co., 436—7th Ave., Pittsburgh
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Wks., 60 E. 42nd St., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., .Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

SODIUM BICARBONATE
(see also Dealers)

American Cyanamid & Chemicals Corp., 30 Rockefeller Plaza, N.Y.
Church & Dwight Co., 70 Pine St., N.Y.
Columbia Alkali Corp., Barberton, Ohio
Diamond Alkali Co., 436—7th Ave., Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington, Del.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Mathieson Alkali Works, 60 E. 42nd St., N.Y.
Michigan Alkali Co., 60 E. 42nd St., N.Y.
Monsanta Chem. Co., St. Louis
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Solvay Sales Corp., 40 Rector St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

SODIUM BICHROMATE
(see also Dealers)

Mutual Chemical Co., 270 Madison Ave., N.Y.
Natural Products Refining Co., 900 Garfield Ave., Jersey City, N. J.
Jos. Turner & Co., 630 5th Ave., N.Y.

SODIUM CARBONATE (see SODA ASH)

SODIUM CHOLATE (Bile Salt)

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Digestive Ferments Co., Detroit
R. W. Greeff & Co., 10 E. 40th St., N.Y.
Wilson Labs., 4221 S. Western Ave., Chicago

SODIUM FLUORIDE (see FLUORIDES)

SODIUM FLUOSILICATE (see SODIUM SILICOFLUORIDE)

SODIUM HYDROSULFITE

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J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Dyestuffs Corp., 435 Hudson St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Royce Chemical Co., Carlton Hill, N. J.

SODIUM HYPOCHLORITE (see CHLORINE, see LAUNDRY BLEACH)

SODIUM HYPOSULFITE (Thiosulfate)

E. I. du Pont de Nemours & Co., Wilmington, Del.
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A. R. Maas Chem. Co., 308 E. 8th St., Los Angeles
Mallinckrodt Chem. Wks., St. Louis
Rohm & Haas, 222 W. Washington Sq., Phila.
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E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.

SODIUM LAUYRL SULFATE (see SULFONATED FATTY ALCOHOLS

SODIUM METAPHOSPHATE

Blockson Chemical Co., Joliet, Ill.
Calgon, Inc., Bowman Bldg., Pittsburgh
Victor Chem. Wks., 141 W. Jackson Blvd., Chicago

SODIUM METASILICATE

Cowles Detergent Co., 10525 Carnegie Ave., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Co., 40 Rector St., N.Y.
Mechling Bros. Chemical Co., Camden, N. J.
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SODIUM PERBORATE
(*see also Dealers*)

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Innis, Speiden & Co., 117 Liberty St., N.Y.

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Solvay Sales Corp., 40 Rector St., .Y.

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Philadelphia Quartz Co., 125 S. 3rd St., Phila.

SODIUM SILICATE
(*see also Dealers*)

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General Chemical Co., 40 Rector St., N.Y.
Mechling Bros. Chem. Co., Camden, N. J.
Philadelphia Quartz Co., 125 S. 3rd St., Philadelphia
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Jos. Turner & Co., 630 5th Ave., N.Y.

SODIUM SILICOFLUORIDE

American British Chem. Supplies, Inc., 180 Madison Ave., N.Y.
American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
American Fluoride Corp., 151 W. 19th St., N.Y.
Blockson Chemical Co., Joliet, Ill.
T. G. Cooper & Co., 47 N. 2nd St., Philadelphia.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Innis, Speiden & Co., 117 Liberty St., N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350—5th Ave., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
Jos. Turner & Co., 630 5th Ave., N.Y.

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S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Deep Rock Oil Corp., 155 N. Clark St., Chicago
Wm. E. Jordan & Bro., 2590 Atlantic Ave., Brooklyn
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Neville Co., Pittsburgh
Reilly Tar & Chemical Corp., P. O. Box 59, Indianapolis
Republic Chemical Co., 94 Beekman St., N. Y.
Shell Petroleum Corp., Shell Bldg., St. Louis
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago

SOLVENTS, ORGANIC

Carbide & Carbon Chem. Corp., 30 E. 42nd St., N.Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Kessler Chem. Corp., 239—11th Ave., N.Y.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Neville Co., Pittsburgh
Republic Chemical Co., 94 Beekman St., N. Y.
Sharples Solvents Corp., Phila.
Warner Chemical Co., 405 Lexington Ave., N.Y.

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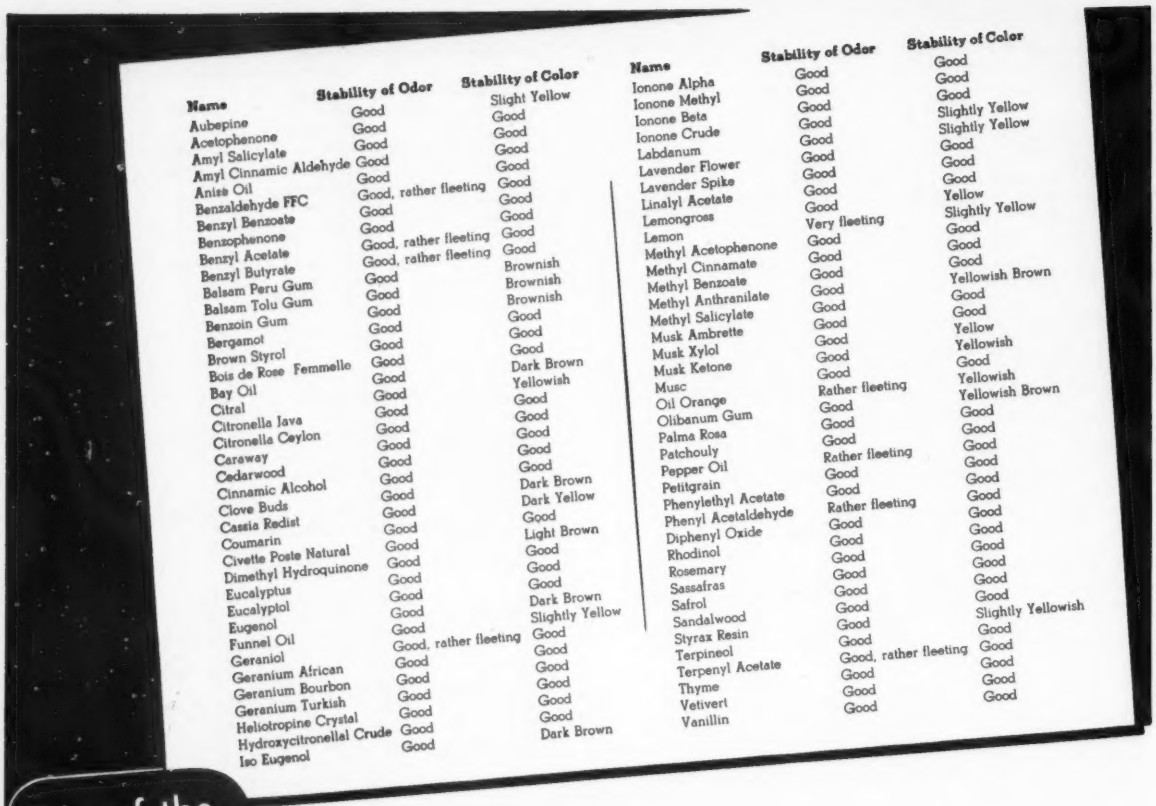
THE PUBLISHERS.



Name	Stability of Odor	Stability of Color
Aubepine	Good	Slight Yellow
Acetophenone	Good	Good
Amyl Salicylate	Good	Good
Amyl Cinnamic Aldehyde	Good	Good
Anise Oil	Good	Good
Benzaldehyde FFC	Good, rather fleeting	Good
Benzyl Benzoate	Good	Good
Benzophenone	Good	Good
Benzyl Acetate	Good, rather fleeting	Good
Benzyl Butyrate	Good, rather fleeting	Good
Balsam Peru Gum	Good	Brownish
Balsam Tolu Gum	Good	Brownish
Benzoin Gum	Good	Brownish
Bergamot	Good	Good
Brown Styrol	Good	Good
Bois de Rose Femmelle	Good	Good
Bay Oil	Good	Dark Brown
Citral	Good	Yellowish
Citronella Java	Good	Good
Citronella Ceylon	Good	Good
Caraway	Good	Good
Cedarwood	Good	Good
Cinnamic Alcohol	Good	Good
Clove Buds	Good	Dark Brown
Cassia Redist	Good	Dark Yellow
Coumarin	Good	Good
Civette Poste Natural	Good	Light Brown
Dimethyl Hydroquinone	Good	Good
Eucalyptus	Good	Good
Eucalyptol	Good	Good
Eugenol	Good	Dark Brown
Funnel Oil	Good, rather fleeting	Slightly Yellow
Geraniol	Good	Good
Geranium African	Good	Good
Geranium Bourbon	Good	Good
Geranium Turkish	Good	Good
Heliotropine Crystal	Good	Good
Hydroxycitronellal Crude	Good	Good
Iso Eugenol	Good	Dark Brown

Name	Stability of Odor	Stability of Color
Ionone Alpha	Good	Good
Ionone Methyl	Good	Good
Ionone Beta	Good	Good
Ionone Crude	Good	Slightly Yellow
Labdanum	Good	Slightly Yellow
Lavender Flower	Good	Good
Lavender Spike	Good	Good
Linalyl Acetate	Good	Good
Lemongross	Good	Yellow
Lemon	Very fleeting	Slightly Yellow
Methyl Acetophenone	Good	Good
Methyl Cinnamate	Good	Good
Methyl Benzoate	Good	Good
Methyl Anthranilate	Good	Yellowish Brown
Methyl Salicylate	Good	Good
Musk Ambrette	Good	Good
Musk Xylol	Good	Yellow
Musk Ketone	Good	Yellowish
Musc	Good	Good
Oil Orange	Rather fleeting	Yellowish
Olibanum Gum	Good	Yellowish Brown
Palma Rosa	Good	Good
Patchouly	Good	Good
Pepper Oil	Rather fleeting	Good
Petitgrain	Good	Good
Phenylethyl Acetate	Good	Good
Phenyl Acetaldehyde	Rather fleeting	Good
Diphenyl Oxide	Good	Good
Rhodinol	Good	Good
Rosemary	Good	Good
Sassafras	Good	Good
Safrol	Good	Good
Sandalwood	Good	Slightly Yellowish
Styrax Resin	Good	Good
Terpineol	Good	Good
Terpenyl Acetate	Good, rather fleeting	Good
Thyme	Good	Good
Vetivert	Good	Good
Vanillin	Good	

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Pennsylvania Refining Co., Butler, Pa.
Skelly Oil Corp., 121 W. Wacker Drive, Chicago
Sinclair Refining Co., 630—5th Ave., N.Y.
L. Sonneborn Sons, 88 Lexington Ave., N. Y.
Standard Oil Co., (Ind.) 910 S. Michigan Ave., Chicago
Standard Oil Co., (Ohio) Midland Bldg., Cleveland

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(*see also Brokers and Dealers*)

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William O. Goodrich Co., Milwaukee, Wis.
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Spencer Kellogg & Son, Buffalo, N.Y.
Mitsubishi Shoji Kaisha, 120 Broadway, N.Y.
Mitsui & Co., 350—5th Ave., N.Y.
Murray Oil Products Co., 21 West St., N.Y.
Purina Mills, St. Louis
J. H. Redding Co., 17 Battery Pl., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
A. E. Starkie Co., 1645 S. Kilbourn Ave., Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.

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H. H. Rosenthal Co., 25 E. 26th St., N.Y.
L. A. Salomon & Bro., 216 Pearl St., N.Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
Smith & Nichols, 121 Maiden Lane, N.Y.
Strohmeyer & Arpe Co., 139 Franklin St., N.Y.
Will & Baumer Candle Co., Syracuse, N.Y.

SPONGES

Allied Industrial Prods. Co., 17 N. Elizabeth St., Chicago
American Sponge & Chamois Co., 47 Ann St., N.Y.
American Standard Mfg. Co., 2509 Lime St., Chicago
Atlas Sponge Co., 291 Church St., N.Y.
Florida Sponge & Chamois Co., 42 Cliff St., N.Y.
Great Eastern Sponge & Chamois Co., 833 N. Catt. Pk Ave., Baltimore
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Robinson Sponge Co., 1727 Atlantic Ave., Brooklyn

SPOTTING FLUIDS (see CLEANING FLUIDS

SPRAY PERFUMES

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Aromatic Products Inc., 15 E. 30th St., N.Y.
Antoine Chiris Co., 115 E. 23rd St., N.Y.
Dodge & Olcott Co., 180 Varick St., N.Y.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
Felton Chemical Co., 503 Johnson Ave., Brooklyn
Chas. Fischbeck Co., 119 W. 19th St., N.Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N.Y.
Givaudan-Delawanna, Inc., 80 Fifth Ave., N.Y.
Magnus, Mabee & Reynard, Inc., 32 Cliff St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
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SPRAY POWDERS (see SOAP POWDERS)

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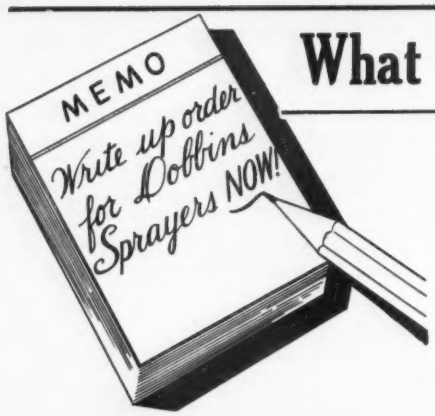

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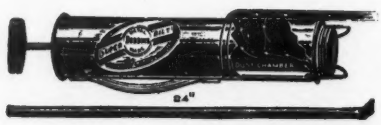

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Dobbins Mfg. Co., North St. Paul, Minn.
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Fumeral Co., Racine, Wis.
Hudson Mfg. Co., 589 E. Illinois St., Chicago
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Lowell Mfg. Co., North Pier Terminal, Chicago
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Hudson Mfg. Co., 589 E. Illinois St., Chicago.
Lowell Mfg. Co., North Pier Terminal, Chicago
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Fumeral Co., Racine, Wis.
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Ratin Laboratory, 116 Broad St, N.Y.

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(see also Dealers)

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Jungmann & Co., 157 Chambers St., N.Y.
Keever Starch Co., Columbus, O.
H. Kohnstamm & Co., 91 Park Pl., N.Y.
National Adhesives Corp., 820 Greenwich St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
A. E. Staley Mfg. Co., Decatur, Ill.

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Jungmann & Co., 157 Chambers St., N.Y.
Mallinckrodt Chem. Wks., St. Louis
Metasap Chemical Co., Harrison, N. J.
National Oil Products Co., Harrison, N. J.
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H. H. Rosenthal Co., 25 E. 26th St., N.Y.

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(see also Brokers and Dealers)

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American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
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Century Stearic Acid Candle Wks., 22 E. 40th St., N.Y.
Darling & Co., 4201 S. Ashland Ave., Chicago
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 122 E. 42nd St., N.Y.
Harkness & Cowing, Ivorydale, Cincinnati
Innis, Speiden & Co., 117 Liberty St., N.Y.
Orbis Products Corp., 215 Pearl St., N.Y.
Procter & Gamble Co., Cincinnati
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
Werner G. Smith Co., 2191 W. 110th St., Cleveland
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Theobald Animal By-Products Co., Kearny, N. J.
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.
M. Werk Co., St. Bernard, Cincinnati
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Wilson-Martin Co., Snyder Ave. & Swanson St., Philadelphia
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

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(see also Brokers and Dealers)

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Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Independent Mfg. Co., Bridesburg P. O., Phila.
Morris Co., Union Stock Yards, Chicago
Procter & Gamble Co., Cincinnati
Snow Brokerage Co., 21 West St., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Louis Stern Sons, Inc., Produce Exch., N.Y.
Swift & Co., Union Stock Yards, Chicago
Welch, Holme & Clark Co., 563 Greenwich St., N.Y.
Wilson & Co., 4100 Ashland Ave., Chicago

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Procter & Gamble Co., Ivorydale, O.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Wilson & Co., Synder Ave., Phila.

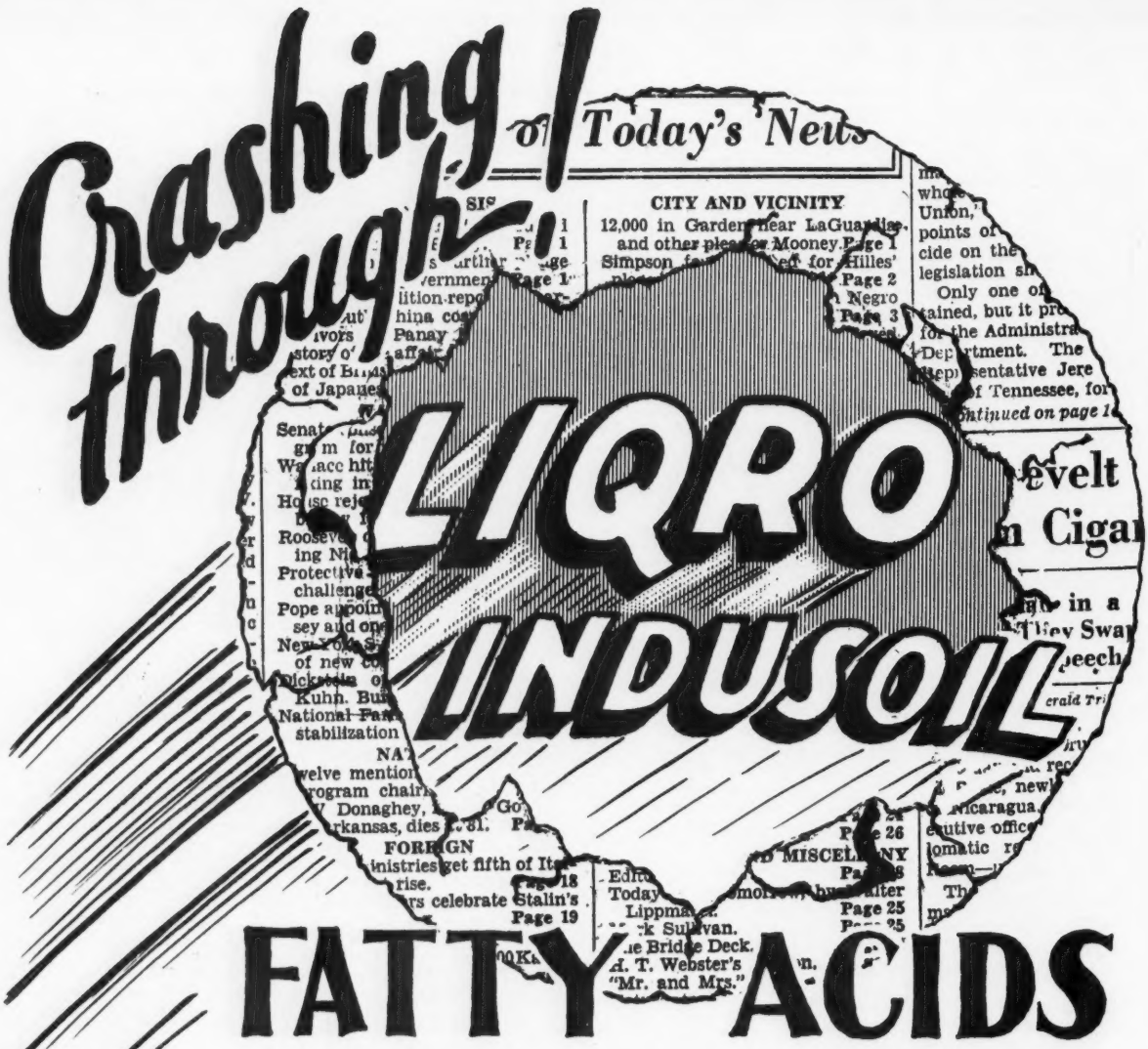
STEEL DRUMS (see DRUMS, STEEL)

STEEL PAILS (see PAILS, STEEL)

STEEL, NICKEL CLAD

Illinois Steel Co., 208 S. La Salle St., Chicago
International Nickel Co., 67 Wall St., N. Y. C.
Lukens Steel Co., Coatesville, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, O.

STEEL TANKS (see TANKS, STEEL)



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Cleveland, Ohio

205 W. Wacker Drive
Chicago, Ill.

STEEL WOOL

Allied Industrial Products Co., 19 N. Elizabeth St., Chicago
American Steel Wool Mfg Co., 42-24 Orchard St., L. I. City, N.Y.
International Steel Wool Co., Springfield, Ohio
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
Whiskette Co., Terre Hill, Pa.

STORAGE TANKS (see TANKS, STORAGE, etc.)

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Carbide & Carbon Chemicals Corp., 30 E. 42nd St., N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Dyestuffs Corp., 435 Hudson St., N.Y.
Hummel Chemical Co., 90 West St., N.Y.
Michel Export Co., 95 Broad St., N.Y.
National Aniline & Chem. Co., 40 Rector St., N.Y.
Procter & Gamble Co., Cincinnati
Sandoz Chemical Works, 61 Van Dam St., N.Y.
Jacques Wolfe & Co., Passaic, N.J.

SULFONATED OILS

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Hercules Powder Co., Wilmington
Kali Mfg. Co., 1408 N. Front St., Philadelphia
National Oil Products Co., Harrison, N. J.
Richards Chemical Works, Jersey City, N. J.
Sandoz Chemical Works, 61 Van Dam St., N.Y.
L. Sonneborn Sons, Inc., 88 Lexington Ave., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Wecoline Prods. Co., 15 E. 26th St., N.Y.
Jacques Walfe & Co., Passaic, N.J.

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Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Jacques Wolfe & Co., Passaic, N. J.

SULFUR CANDLES

White Tar Co., Kearny, N. J.

SUPERFATTING AGENTS

Pfaltz & Bauer, 350—5th Ave., N.Y.
Pylam Products Co., 799 Greenwich St., N.Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.

SUPERHEATERS

Eureka Machine Co., 2601 Vega Ave., Cleveland
William Garrigue & Co., 9 S. Clinton St., Chicago
Ernest Scott & Co., Fall River, Mass.
The Superheater Co., 17 E. 42nd St., N.Y.
Wurster & Sanger, Inc., 5201 Kenwood Ave., Chicago

SURGICAL SOAPS (see POTASH SOAPS)

SWEEPING COMPOUNDS

American Excelsior Corp., 1000 N. Halstead St., Chicago
Baums Castorine Co., 200 Mathews St., Rome, N.Y.
Champion Mfg. Co., 322 S. Erie St., Indianapolis, Ind.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N.Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hubman Supply Co., 225 N. 4th St., Columbus, O.
North Coast Soap & Chem. Wks., Seattle, Wash.
Pacific Chem. Co., 1421 N. Main St., Los Angeles
Palmer Products, Inc., Waukesha, Wis.
Pioneer Mfg. Co., Cleveland, O.
Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Sanco Prods. Inc., Greenville, O.
Solshine Mfg. Co., 44 Brookline St., Cambridge, Mass.
Sweeping Compound Mnfrs. Co., of N. Y., 421 Broome St., N.Y.
Uncle Sam Chemical Co., 329 E. 29th St., N.Y.
U. S. Sanitary Specialties Corp., 435 Western Ave., Chicago

SYNTHETIC DETERGENTS (see DETERGENTS, SYNTHETIC)

SYNTHETIC INSECTICIDE CONCENTRATES (see INSECTICIDE CONCENTRATES, SYNTHETIC)

TALC

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
Binney & Smith Co., 41 E. 42nd St., N.Y.
Blue Ridge Talc Co., Henry, Va.
Chas B. Chrystal Co., 11 Park Place, N.Y.
A. C. Drury & Co., 219 East North Water St., Chicago
Eastern Magnesia Talc Co., Burlington, Vt.
Fezandie & Sperrle, 205 Fulton St., N.Y.
Georgia Talc Co., Asheville, N. C.
Goris & Arnstein, 37th & Racine Ave., Chicago
K. F. Griffiths & Co., 110E. 42nd St., N.Y.
Hammill & Gillespie, 225 Broadway, N.Y.
Innis, Speiden & Co., 117 Liberty St., N.Y.
Los Angeles Talc Co., Los Angeles, Cal.
Natural Products Co., 307 W. 8th St., Los Angeles
Orbis Products Corp., 215 Pearl St., N. Y.
Pacific Coast Talc Co., Los Angeles, Cal.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
H. H. Rosenthal Co., 25 E. 26th St., N.Y.
L. A. Salomon & Bro., 216 Pearl St., N.Y.
E. M. Sergeant Pulp & Chemical Co., Empire State Bldg., N.Y.
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Union Talc Co., 147 Nassau St., N.Y.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.
Whittaker, Clark & Daniels, 160 Broadway, N.Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

TALL OIL (TALLOL)

Champion Paper & Fibre Co., Canton, North Carolina
Gottesman & Co., 22 E. 40th St., N.Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.

TALLOW
(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Darling & Co., 4201 So. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Independent Mfg. Co., Bridesburg P. O., Phila.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Louisville Butchers' Hide & Tallow Co., Louisville, Ky.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
J. H. Redding Inc., 17 Battery Place, N.Y.
Willibald Schaefer Co., Foot of Bremen Ave., St. Louis
Snow Brokerage Co., 21 West St., N.Y.
Louis Stern Sons, Inc., Produce Exchange, N.Y.
Swift & Co., Union Stock Yards, Chicago
Theobald Animal By-Products Co., Kearny, N. J.
Toledo Tallow Co., Toledo, Ohio
Walthom Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.
Wilson & Co., Union Stock Yards, Chicago
Wilson-Martin Co., Swanson St., Phila.

TALLOW CHIP SOAP (see CHIP SOAPS)

TALLOW OIL
(see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Independent Mfg. Co., Bridesburg P. O., Phila.
Louis Stern Sons, Inc., Produce Exchange, N.Y.
Toledo Tallow Co., Toledo, O.
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., Inc., 563 Greenwich St., N.Y.
Wilson & Co., Union Stock Yards, Chicago

TANKS (Glass Lined Mixing and Storage)

Alsop Engineering Corp., 384 Main St., Milldale, Conn.
Consolidated Products Co., 15 Park Row, N.Y. (Used)
Edge Moor Iron Wks., 30 Rockefeller Plaza, N.Y.
Ertel Eng. Co., 120 E. 16th St., N.Y.
Metal Glass Products Corp., Belding, Mich.
Mixing Equipment Co., 1024 Garson Ave., Rochester, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

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Benzylidene Acetone
Bergamot Synthetic
Bromstyrol
Cinnamic Alcohol
Citral S. S.
Citrene
(Citronella Substitute)
Terpineol Prime No. 1
Citronellol
Coumarin
Cyclamen Aldehyde
Dimethyl Hydroquinone
Diphenyl Oxide
Eugenol
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Geranyl Acetate
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Isobutyl Benzoate
Isoeugenol
Laurine
(Hydroxycitronellal 100%)
Linalyl Acetates
Methyl Benzoate
Methyl Cinnamate
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Pfaudler Co., 89 East Ave., Rochester, N.Y.
Scientific Filter Co., 1 Franklin Sq., N.Y.
Sprout, Waldron & Co., Muncy, Pa.

TANKS (for Liquid Soap Dispensing Systems)

Bobrick Chemical Corp., 111-117 Garey St., Los Angeles
Bobrick Dispenser Co., 215—4th Ave., N.Y.
Brighton Copper Works, 2163 Western Ave., Cincinnati
Clifton Chemical Co., 247 Front St., N.Y.
Eagle Soap Corp., Huntington, Ind.
Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago
Moore Brothers Co., 200 Hudson St., N.Y.
Palmer Products, Inc., Waukesha, Wis.
John Trageser Steam Copper Works, Grand Ave., Maspeth, L. I., N.Y.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago

TANKS (Glass Lined Mixing and Storage) (Cont'd)

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., 384 Main St., Milldale, Conn.
S. F. Bowser & Co., 1300 E. Creighton Ave., Ft. Wayne, Ind.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
Edge Moor Iron Wks., 30 Rockefeller Plaza, N.Y.
William Garrigue & Co., 9 S. Clinton St., Chicago
Graver Tank & Mfg. Corp., 28 E. Jackson Blvd., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Huber Machine Co., 259--46th St., Brooklyn
Illinois Steel Corp., 208 S. LaSalle St., Chicago
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
J. M. Lehmann Co., 248 W. Broadway, N.Y.
Littleford Bros., 451 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatesville, Pa.
Mixing Equipment Co., 1024 Garson Ave., Rochester, N.Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Patterson Foundry & Machine Co., East Liverpool, Ohio
Petroleum Iron Works, Sharon, Pa.
Pfaudler Co., Rochester, N.Y.
Pioneer Tank & Boiler Co., Tulsa, Okla.
Read Machy. Co., York, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Struthers-Wells Co., Warren, Pa.
John Trageser Steam Copper Works, Grand St., Maspeth, L. I., N.Y.

TANKS (Wooden Mixing and Storage)

Atlantic Tank & Barrel Co., North Bergen, N.J.
Consolidated Prods. Co., 15 Park Row, N.Y. (Used)
J. H. Day Co., 1144 Harrison Ave., Cincinnati
General Tank Corp., 30 Church St., N.Y.
Hauser-Stander Tank Co., Ivorydale, Cinn.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
New England Tank & Tower Co., Everett, Mass.
Pacific Tank & Pipe Co., 334 Market St., San Francisco
Read Machy. Co., York, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Tippett & Wood, Phillipsburg, N. J.

TAR ACID OIL (see COAL TAR RAW MATERIALS)

TAR ACIDS, High-Boiling

American-British Chem. Supplies, Inc., 180 Madison Ave., N.Y.
Barrett Co., 40 Rector St., N.Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Monsanto Chemical Co., St. Louis
Reilly Tar & Chem. Co., Indianapolis
Republic Chemical Co., 94 Beekman St., N. Y.

TERPENELESS OILS (see ESSENTIAL OILS)

TERPENYL ACETATE (see AROMATIC CHEMICALS)

TERPINEOL
(see also Essential Oils)

Aromatic Products, Inc., 15 E. 30th St., N.Y.
Dodge & Olcott Co., 180 Varick St., N.Y.
P. R. Dreyer Inc., 12 E. 12th St., N.Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Firmenich & Co., 135—5th Ave., N.Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N.Y.
Givaudan-Delawanna, Inc., 80—5th Ave., N.Y.
Pfaltz & Bauer, Inc., 350—5th Ave., N.Y.
Schimmel & Co., 601 W. 26th St., N.Y.
Ungerer & Co., 13 W. 20th St., N.Y.

TETRACHLORETHYLENE (see SOLVENTS, ORGANIC)

TETRALIN

E. I. du Pont de Nemours & Co., Wilmington, Del.

TEXTILE SOAPS (Specialties)

Armour Soap Wks., 1355 W. 31st St., Chicago
J. O. Draper Co., Pawtucket, R. I.
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Enterprise Mill Soap Wks., 2231 N. 12th St., Philadelphia
Arnold Hoffman & Co., Providence, R. I.
Holbrook Mfg. Co., Cole & 18th Sts., Jersey City
Iowa Soap Co., 810 Valley St., Burlington, Ia.
Jungmann & Co., 157 Chambers St., N.Y.
H. Kohnstamm & Co., 91 Park Pl., N.Y.
Laurel Soap Mfg. Co., Tioga St., Phila.
Long Island Soap Co., Meeker Ave., & Bridgewater St., Bklyn, N.Y.
Los Angeles Soap Co., Los Angeles, Cal.
Geo. E. Marsh Co., 200 Broadway, Cambridge, Mass.
National Oil Products Co., Harrison ,N. J.
National Soap Co., 357 South 26th St., Tacoma, Wash.
Newell Gutradt & Co., 350 Fremont St., San Francisco
Peck's Products Co., St. Louis, Mo.
Procter & Gamble Co., Cincinnati
Rome Soap Mfg. Co., Rome, N.Y.
Sandoz Chemical Works, 61 Van Dam St., N.Y.
Scholler Bros., 3301 Amber St., Philadelphia
Geo. E. Sherman Co., 153 Classon Ave., Brooklyn, N.Y.
Swift & Co., Union Stock Yards, Chicago
Ultra Chem. Wks., Inc., Kitay Bldg., Paterson, N. J.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Jacques Wolf & Co., Passaic, N.J.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

TEXTILE SODA (see SODA)

THALLIUM SULFATE (Rat Poisons)

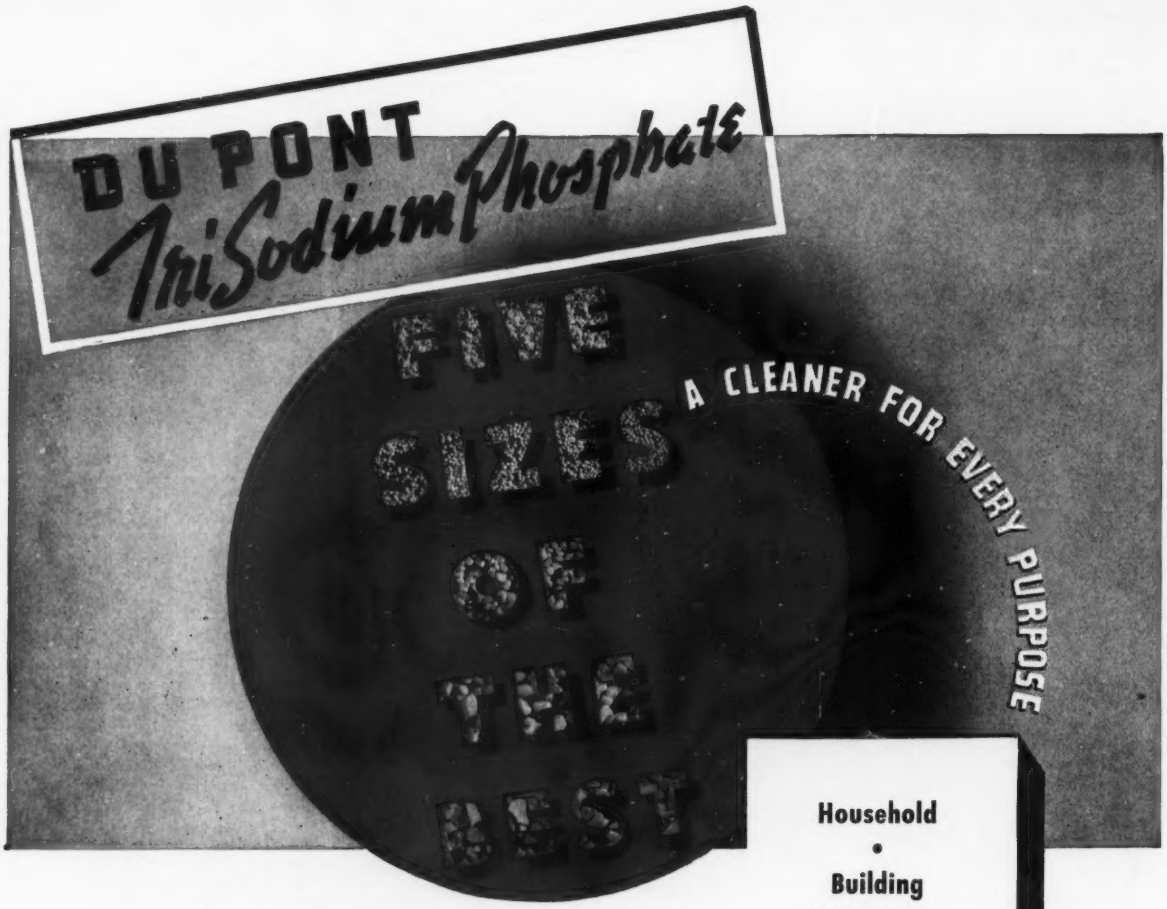
American Fluoride Corp., 151 W. 19th St., N.Y.
Foote Mineral Co., 1609 Summer St., Phila.
Hugo Falck & Co., 25 Broadway, N.Y.
Jungmann & Co., 157 Chambers St., N.Y.
Ore & Chemical Corp., 40 Rector St., N.Y.
Pfaltz & Bauer, Inc., 350—5th Ave., N.Y.
H. H. Rosenthal Co., 25 E. 26th St., N.Y.

THEATRE SPRAY BASES (see PETROLEUM BASES)

THEATRE SPRAY PERFUMES (see PERFUMING COMPOUNDS)

THEATRE SPRAYS

Antiseptol Co, 5524 Northwest Highway, Chicago
Baums Castorine Co., 200 Mathew St., Rome, N.Y.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Supply Co., 2450 Canal Rd., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Churchill Mfg. Co., 309 Douglas St., Sioux City, Ia.
Clifton Chemical Co., 247 Front St., N.Y.
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., Kensington, Philadelphia
Hockwald Chemical Co., 436 Bryant St., San Francisco
Hubman Supply Co., 225 N. 4th St., Columbus, O.
Hunt Mfg. Co., Lisbon Rd., Cleveland



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Theo. B. Robertson Prods. Co., 700 W. Division St., Chicago
Selig Co., 336 Marietta St., Atlanta, Ga.
U. S. Sanitary Specialties Corp., 435 S. Western Ave., Chicago
V. C. Products Co., Philadelphia
World Spray Co., Inc., 5117 Central Ave., Los Angeles

THERMOMETERS (see INSTRUMENTS)

THYME OIL (See ESSENTIAL OILS)

THYMOL (see AROMATIC CHEMICALS)

TIGHT WRAPPING MACHINERY (see WRAPPING MACHINERY)

TIN CRYSTALS (Stannous Chloride)

American Cyanamid & Chem. Corp., 30 Rockefeller Plaza, N.Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.
Metal & Thermit Corp., 120 Broadway, N.Y.

TITANIUM OXIDE (for toilet soaps)

Titanium Pigment Co., 111 Broadway, N.Y.
Chemical & Pigment Co., St. Helena, Baltimore
Foote Mineral Co., 1609 Summer St., Phila.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

TOILET PAPER

Brown Co., Portland, Me.
Hoberg Paper & Fibre Co., Green Bay, Wis.
Scott Paper Co., Chester, Pa.
Straubel Paper Co., Green Bay, Wis.
U. S. Envelope Co., Lititz, Pa.
Victoria Paper Mills Co., Fulton, N.Y.

TOILET PREPARATIONS
(see also Bath Salts, Shampoos, etc.)

Commercial Labs., Newark, N.Y. State
Ehrmann-Strauss Co., 200 W. Houston St., N.Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Shores Co., Cedar Rapids, Ia.
John T. Stanley Co., 642 W. 30th St., N.Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SEAT COVERS

Lorco Industries, Clarke & Hornet Sts., Cincinnati
Morton Mfg. Co., 5105 W. Lake St., Chicago
National Towel Bendon Ltd., 12 Stewart St., San Francisco
Sani-Gard Cover Co., 411 W. 5th St., Los Angeles

TOILET SOAP BASE (for CAKES)

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., Los Angeles, Cal.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Procter & Gamble Co., Cincinnati
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Swift & Co., Chicago
John T. Stanley Co., 642 W. 30th St., N.Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SOAP MILLS (see SOAP MACHINERY)

TOILET SOAPS (Cakes)

Armour Soap Wks., 1355 W. 31st St., Chicago
Colgate-Palmolive-Peet Co., Jersey City, N. J.
Cudahy Packing Co., 221 N. LaSalle St., Chicago
J. Eavenson & Sons, Del. & Penn Sts., Camden, N. J.
Hewitt Soap Co., Dayton, O.
Larkin Co., Buffalo, N.Y.
Lightfoot Schultz Co., 1412 Park Ave., Hoboken, N. J.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn, N.Y.
Los Angeles Soap Co., Los Angeles, Cal.
National Soap Co., Box 1613, Tacoma, Wash.
Newell, Gutradt Co., 350 Fremont St., San Francisco
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 522-40 N. 2nd St., St. Louis
Procter & Gamble, Cincinnati
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N.Y.
Swift & Co., Chicago
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
M. Werk Co., St. Bernard, Cincinnati
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOOTH PASTE

Commercial Laboratories, Newark, N. Y. State
Ehrmann-Strauss Co., 200 W. Houston St., N.Y.
McKesson & Robbins, 79 Cliff St., N.Y.
Geo. A. Schmidt Co., 236 W. North Ave., Chicago
Shores Co., Cedar Rapids, Ia.
Strong Cobb & Co., Cleveland
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOWELS, PAPER

Brown Co., Portland, Me.
Hoberg Paper & Fibre Co., Green Bay, Wis.
Scott Paper Co., Chester, Pa.
Straubel Paper Co., Green Bay, Wis.
U. S. Envelope Co., Lititz, Pa.
Victoria Paper Mills Co., Fulton, N.Y.

TRICHLORBENZENE (see SOLVENTS, ORGANIC)

TRICHLORETHYLENE (see SOLVENTS, ORGANIC)

TRIETHANOLAMINE (see ETHANOLAMINE)

TRIPOLI

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Barnsdall Tripoli Co., Seneca, Mo.
Chas. B. Chrystal Co., 11 Park Pl., N.Y.
Goris & Arnstein, 3700 Racine Ave., Chicago
K. F. Griffiths, 110 E. 42nd St., N.Y.
Hammill & Gillespie, 225 Broadway, N.Y.
Independent Gravel Co., Joplin, Mo.
Innis, Speiden & Co., 117 Liberty St., N.Y.
International Silica Co., Cairo, Ill.
Natural Products Co., 307 W. 8th St., Los Angeles
James H. Rhodes & Co.,, 157 W. Hubbard St., Chicago
L. A. Salomon & Bro., 216 Pearl St., N.Y
A. E. Starkie Co., 1645 S. Kilbourne Ave., Chicago
Tamms Silica Co, 228 N. La Salle St., Chicago
Whittaker, Clark & Daniels, Inc., 260 W. Broadway, N. Y.
Wishnick-Tumpeer, Inc., 295 Madison Ave., N.Y.

TRISODIUM PHOSPHATE
(see also Brokers and Dealers)

Amer. Agricultural Chem. Co., 50 Church St., N.Y.
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, N.Y.
Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 40 Rector St., N.Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
International Agricultural Corp., Atlanta, Ga.
A. R. Maas Chem. Co., 308 E. 8th St., Los Angeles

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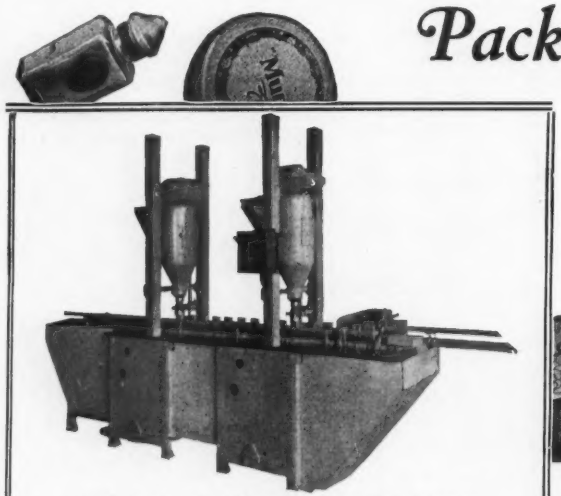

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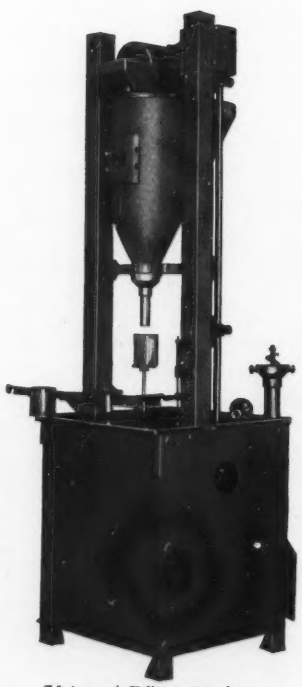

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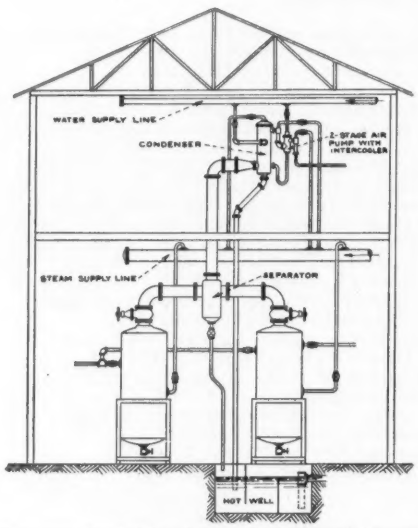

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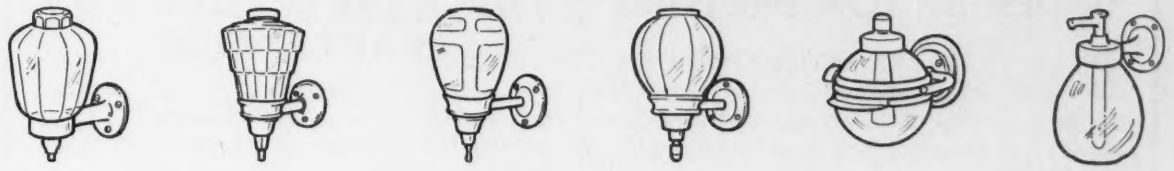
Which Soap Dispenser?



Group I Dispensers

THE manufacturer or jobber of soaps for use in wash rooms is sooner or later confronted with the problem of dispensers. If his customer already has dispensers, the problem may be temporarily shelved, but only temporarily because sooner or later, the equipment will wear out or need repairs. When it does, the soap supplier will find the issue squarely in his lap. If he does not shoulder the responsibility, some competitor will and he will lose the customer.

If the customer is one who has never used liquid or powdered soap, his need is immediate because naturally he cannot use these products without dispenser equipment. The first thing that really should be considered, before the customer is sold a single dispenser, is the type of people who are going to use the equipment, because if the wrong type dispenser is furnished, it will surely result in a dissatisfied customer.

The natural inclination of the customer is to look at the purchase of the dispensers as a necessary evil, therefore from a price angle only. Strange as it may seem, many suppliers follow suit, probably because the supplier's salesman, anxious to get an order, is prone to take the path of least resistance and allow the customer to purchase the wrong equipment. This short sightedness on the part of the supplier, often results in the loss of the customer. Disgusted with unsuitable equipment, he either discontinues the service entirely, or else a more experienced competitor comes in and sells him the proper equipment and, of course, the soap to go with it.

While the classification of dispensers really should be made by the use to which they are to be put and the type of people who will use them, the usual tendency of the industry is to classify them in price groups. The models offered by the various manufacturers can be divided into six general price groups. The prices shown in the following classifications refer to the soap manufacturers' and jobbers' costs.

Group I: Dispensers ranging in price from $.80 to $1.35 — This group is very definitely divided into three distinct types of dispensers: (A) the push-up type which is operated by pressing up on a plunger on the bottom of the dispenser; (B) the tilt type, which, as far as can be ascertained, is the "grand daddy" of all liquid soap dispensers; and (C) a type with a spout on top of the liquid container which operates by pressing down on this spout.

(A) Push-up Type

This dispenser is made in two different styles, one with the glass jar cemented into the body or bracket and with a standard screw closure, usually about two inches in diameter, used as a filler cap. These caps may, of course, be easily removed with the fingers, introducing the possibility of missing caps and bowls filled with cigarette stubs, wads of paper and other refuse.

The other style has a glass jar closed at the top. As the soap is dispensed a vacuum is formed in the top of the globe which helps to keep the dispenser from leaking or dripping. Leaking is one of the worst faults in this type dispenser — particularly after a few years of service, owing to the limitation on materials and machine work imposed by the low price range. Another distinct disadvantage of this second style is that the entire glass jar, including valve, may be removed by any one so inclined. The brackets without bowls often seen in public wash rooms testify to the fact that there are some people who will steal anything portable.

(B) Tilt-type

The obvious advantages of this type dispenser are the lack of springs, valves, washers and other moving parts, also the impossibility of a leak unless the glass globe is broken. The disadvantages are that in tilting it, one never knows whether the soap will go into the palm of the hand or elsewhere. The amount of soap dispensed varies with the fullness of the container, some operating by gravity, while others are supplied with a movable plunger which makes the operation more or less positive. However, if the filler cap is removed, and the

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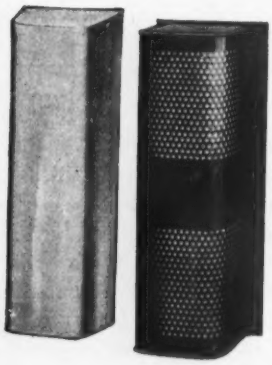

Blocks — 4 oz., 24 oz. and 40 oz.

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Odors — Rose, Pine, Lilac, Oriental.
Packing — Individually in cellophane.

Prices — The surprising part is that you do not have to pay more for these than ordinary blocks.

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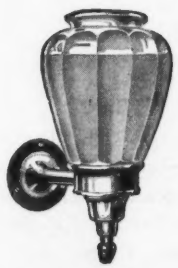
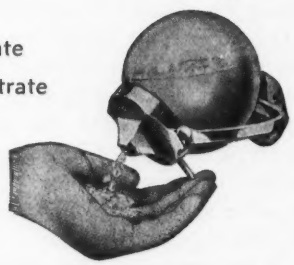


Foamwell Liquid Soap
Fleur-de-Lis Liquid Soap
Semi-Castile Liquid Soap
Baby Castile Liquid Soap
40% Liquid Soap
Semi-Castile Concentrate
Olive Oil Concentrate
Coconut Oil Concentrate
Olive Oil Base



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dispenser turned over, these plungers often drop out and go down the drain pipe. Most of them are difficult to fill and impossible to clean inside on account of the small opening. In coming back to normal position, soap runs over the bowl, cakes there and collects dirt which, coupled with the dirty appearance of the inside from the accumulation of sediment, hardly makes a good advertisement for the soap manufacturer. The heavy glass bowl being on a swivel and constantly moving back and forth, subjects the whole mechanism to considerable strain and in public places where they get hard use, the proportion of breakage is heavy.

(C) Push-down Type

This type has, of course, the advantage of being leak-proof because the soap will not run up hill. The glass bowl, however, must be removed to be filled and in doing so the janitor with wet or soapy hands is very apt to drop it. It also can be removed by the public without any special wrenches and while one cannot see the value of an ordinary glass jar, nevertheless many are stolen.

Probably the biggest fault of all three of the dispensers in this group is the fact that the pressure of operating them is either up or down. The spouts or push buttons are between four and five inches from the wall which means a tremendous leverage against the screws. The continual banging by the public may soon loosen them from the wall.

Further disadvantages in these cheaper dispensers are introduced by the materials from which they are made. All the push-up and push-down type parts and most of the tilts are die-castings. Die-castings are mostly zinc, which is attacked by alkalis no matter how weak. As a consequence, the seats of the valves of these dispensers eventually disintegrate, while the effect of the alkali on the zinc causes blooming which makes the plating peel off. The result is leaking and shortened life to the equipment, to say nothing of its unsightly appearance.

Summing up, the most an impartial observer can say for this group of dispensers is that they are low in cost. They are of chief interest to the buyer who wants a dispenser cheap enough so that he can give it away.

Group II: Dispensers ranging in price from $1.35 to $2.50 — This group seems to have resolved itself into one type dispenser, namely a medium priced machine with a push-in valve, there being only one variation in this class which is of the push-up type.

The general appearance of all the push-in types is practically the same. However, examination discloses that there is considerable difference in the mechanical features of the valves of different manufacturers. Some dispense the soap on the inward stroke, while others dispense it on the outward stroke. All the manufacturers seem to have overcome, to a greater or less extent, "bleeding" or the allowing of the soap to run out in a steady stream when the plunger is held in. The principle of pushing in on the valve to operate the dispenser is unquestionably best. The pressure of operation being against the wall creates no strain on the screws or fastenings.

All are equipped with valves that can be easily removed for cleaning yet appear to be tamper-proof. All are equipped with the conventional glass jar, cemented to the valve, topped with a standard screw closure, the weakness of which seems to be that it can be easily removed to allow mischievous children or maliciously inclined adults to fill the dispenser with wads of paper, pencil stubs, and whatever seems to be handy.

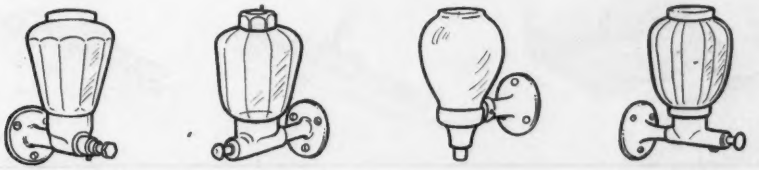
The bodies and brackets of all except one are die-cast which metal has the disadvantages, when used with soap, described under Group I dispensers. In the one exception, the body and bracket are made of pressed steel which is not attacked by soap and, of course, has much greater strength. On the other hand, it is probably questionable as to whether it is any better on account of the tendency of steel to rust, especially when exposed to a practically continuous bath of water as a liquid soap dispenser must be.

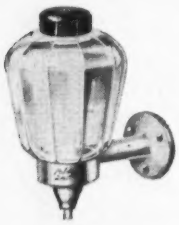
While the metals used, workmanship and finish of this class are not of the best, they probably are as good as the manufacturers can afford for the price at which they are sold. They fill a very definite place in the industry, enabling the supplier to furnish a good practical dispenser at a moderate price which will work most of the time and, from the available data, has a life of three or four years.

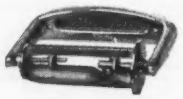
The one push-up type in this class need hardly be considered, because while the body, bracket and valve of this dispenser is made of brass, making it a sturdy article, the sale seems to be very small, probably because it has all of the operating faults of the Class I dispensers.

Group III: Dispensers ranging in price from $2.50 to $3.50 — In this group we find several distinct types of dispensers, the most outstanding and seemingly most popular being (a) the conventional wall type with push-in valve and glass jar, (b) the cabinet type having a rectangular porcelain enameled pressed steel body with push-in valve attached at the bottom and (c) the so-called Pullman type dispenser which fits onto the wash basin.

Group II Dispensers







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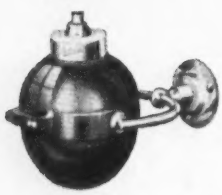

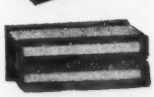

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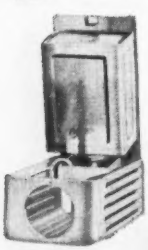
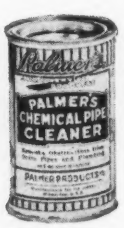
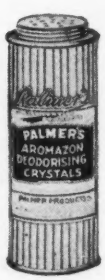
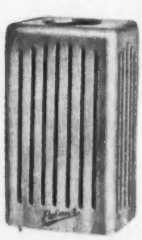
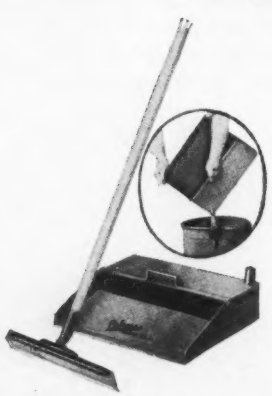
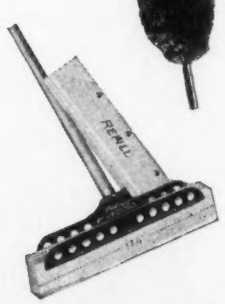


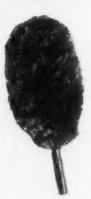












Group III Dispensers

Several of these types are also made with a valve which dispenses lather instead of liquid and there is one rather unique design of lather dispenser with the valve on top, the glass jar holding the liquid being below, protected by a metal sheathing.

(A) Push-in Type

All have the same general appearance, however, the ideas of beauty of the various manufacturers seem to be quite divergent, their designs running the gamut from ginger bread Mid-Victorian to modern stream lining.

The valves in this class show even a greater variety of difference in construction than in Group II, the mechanical features of some being quite ingenious. Some dispense the soap on the inward stroke, others on the outward stroke, the manufacturers claiming advantages for both. All may be operated with the hand that receives the soap and owing to much better workmanship and fitting of parts all have overcome "bleeding" regardless of where the piston is held. In all except one, the entire valve with the spring and washers is easily removed for cleaning or repairing of parts with special wrenches furnished with the dispensers by the manufacturers. All are equipped with filler caps that lock.

(B) Cabinet Type

With the exception of one modernistic design, all have the same general appearance — in fact one would think the manufacturers all had the bodies pressed from the same dies. They are all rectangular in shape, varying in capacity from 12 to 40 ounces, with push-in valves either fastened through the body or in a separate casting fastened to the bottom. The bodies are made from pressed steel with welded seams covered with enamel. The standard color appears to be white, but other colors to match modern wash rooms, are noted. The valves in all cases are the same as the valves used in the conventional push-in type in this group. All are equipped with lock tops, one manufacturer going so far as to hinge the top so that it cannot be lost or stolen even when open.

These are equipped with ingenious devices for fastening to the wall, easily attached and easily removed if one has the necessary special tools. Being impossible to remove without them, they are stolen only with difficulty.

These dispensers have evidently been designed for heavy duty service and seem to fill the bill, their only weakness being the fact that enamel on steel will chip when hit with a hard metal instrument, and the fact that neither the user nor the janitor can see the amount of soap in the container.

(C) Basin Type

This dispenser is generally called "Pullman type," probably from the fact that this type valve on a gravity system has for so many years been standard equipment on Pullman cars.

Outwardly the models of the different manufacturers all look the same, a conventional spout with a push button on top which is pressed down to operate the valve. All work on the same mechanical principle. However their filling seems to have been provided for differently by various manufacturers. With some it is necessary to reach under the basin and remove the jar, others have special filling caps attached to the body, while one goes so far as to require the removal of the entire valve. Others are filled simply by unscrewing the push button.

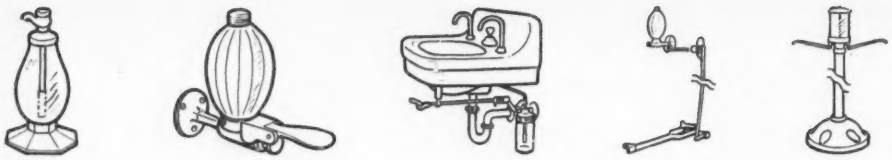
The limitation of the use of this dispenser is obvious. It either has to be fastened to the basin through a special hole or else through the hot water cock hole where no hot water faucet is used. It also is the highest priced dispenser in this group.

The lather type dispenser is more or less new, the dispenser manufacturers all claiming wonders for them. They are popular with the buyer of soap on account of their great economy. However, the soap manufacturer and jobber report that to date they do not seem to be perfected, considerable trouble being experienced with clogging and leaking. They also fall in the high price bracket in this group.

Examination of the materials used in the manufacture of dispensers in this group shows that they are all of better grade. In most cases the bodies and brackets are made from bronze or nickel silver with the valve parts either bronze, nickel silver or stainless steel. In only a few cases have the manufacturers resorted to the use of inferior materials such as zinc and iron.

The machining of the parts, in most cases, is better than a commercial job — in some cases almost approaching the machine work one sees in precision instruments. The chromium plating and finish is of the finest and equal to or better than that found on the best plumbing fixtures.

The conventional glass jar type seems to be the favorite for high class installations such as clubs, hotels, restaurants, office buildings, department stores, etc. As a matter of fact, they can be installed any-



Group IV
Dispensers

where with pretty good assurance that they will give service as long as the plumbing fixtures.

The cabinet types are, of course, best adapted for installation in schools, railway stations, bus terminals, service stations, and public wash rooms where the equipment cannot be watched and is subject to breakage or stealing.

The basin type is also very well adapted to places where the dispenser gets hard usage, but of course its use is limited as it can only be fastened to the basin.

Group IV: Special Dispensers — In this group fall quite a variety of dispensers, principally types used by physicians, surgeons, dentists and in hospitals. There are several small reasonably priced portable dispensers, several that fasten either above or below the basin and are operated by the foot or knee, and one that is operated by the elbow. All of these are quite complicated and rather difficult to install, and are handled chiefly by concerns that specialize in hospital business.

There are three large portable pedestal type dispensers on the market which are furnished with either one or two spouts. They are operated by a foot pedal attached to the bottom of the pedestal. The sale of these seems also to be exclusively for hospital use. This type dispenser is very expensive, selling for around $40.00.

The mechanical construction and finish of all the dispensers in this group is of the best and those who handle them report that they have practically no trouble with them.

Group V: Gravity Feed Systems — The gravity feed system consists of a tank with a pipe line either concealed in the wall or exposed running along the top of the basins, with a valve attached to this pipe line over each basin. Either individual tanks are installed in each wash room to supply all of the valves in that room or in the more modern buildings, one tank is located on the roof and pipes lead to the wash rooms in the building. This last arrangement is, of course, the best, but must be planned ahead and installed when the building is under construction. In most cases when this type system is used, the connections on the roof to the system are made so that a standard 50-gallon steel drum in which the soap is packed can be connected directly to the system, thus doing away with the necessity of emptying or pumping the soap from the drum into a tank.

For individual wash room systems a variety of tanks may be obtained from the manufacturer ranging from ordinary tin rectangular tanks to elaborate china ones, the price, of course, varying according to the quality. The smallest of these tanks has a capacity of one gallon, the largest five gallons.

Valves may be divided into four classes: (1) the standard wall type most generally seen; (2) the basin type so familiar on Pullman cars; (3) vertical types used in shower baths; and (4) special valves in which are incorporated the handles for operating the basin wastes. Several manufacturers make valves that dispense a lather instead of liquid, however they all seem to have the same drawbacks that the individual lather dispensers of Group III have.

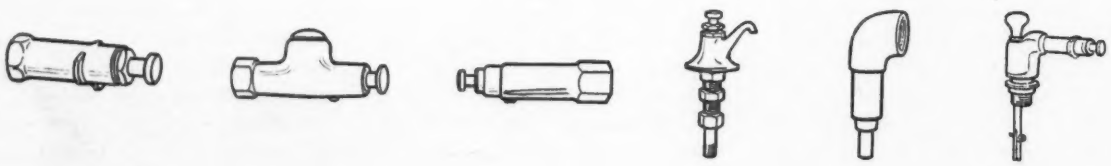
The choice of which valves should be used for a particular installation is really merely the choice of the customer. The basin type, especially when the pipes are concealed, makes the neatest installation as there are no projections on the wall, the soap is handy for the user and they are very easy to keep clean.

The shower bath type should always be used in shower installations. They are designed especially for this purpose and have no sharp projections to hurt one if he slips and falls. Those with the waste connection also make an ideal installation but their price is very high, probably because of the limited sale.

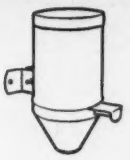
Materials and workmanship used by all the manufacturers are about the same as the materials used in Group III dispensers, and the plating and finish appears to be of the best.

The mechanical construction of the various valves is the same in all cases. The soap being under more or less pressure depending on the height of the tank from the valves, it is necessary to have a very positive shut-off which closes before the actual dispensing operation starts.

Group V Dispensers



Group VI
Dispensers



The life of these systems is practically indefinite. There is no doubt but that this is the ideal method of dispensing liquid soap. The limitation of use probably is the initial cost of the equipment and the necessarily greater work to install.

Group VI: Powdered Soap Dispensers — In this field the soap manufacturer or jobber has much less choice than with liquid soap dispensers. While there are five distinct types of powdered soap dispensers, the dispenser manufacturers do not seem to be competing with one another, each making dispensers in their own distinctive classes. The only exception is the tilt-type and we find four different manufacturers making this type. Grouping these dispensers according to price, they break down into the following classification:

Class I: Ranging in price from $.75 to $1.00 — There only seems to be one dispenser in this class on the market. Naturally for the price, it must be cheaply constructed. It is made from very thin metal, with two strips of metal attached to the body for a wall bracket. The body is cylindrical, topped with an ordinary slip cover which can be readily removed and, being a large opening, the tendency in shops seems to be to remove it and dip the hands into the powder instead of pushing on the plunger.

The plunger is a simple sliding device with a hole in it. The dispenser seems to work fairly satisfactorily but the jobbers report there is a considerable breakage. The finish is such that it cannot be placed in any modern wash room. Its use seems to be principally in garages, factories and such places. However, it is not built strongly enough for this class of trade.

Class II: Ranging in price from $1.50 to $2.00 — There are two distinct types of dispensers in this class. One is the conventional wall type with glass jar. Its operating mechanism is a rotor with five paddles. At each press of the plunger, the paddle revolves and one compartment of the rotor lines up with the opening in the bottom allowing the soap in that compartment to fall out. There is also an agitator spring inside the glass globe which vibrates back and forth at each turn of the paddle, shaking down the soap. The glass jar is topped with a standard screw closure without a lock which, of course, means that malicious persons can remove the cap and pour water into the powder. The opening, however, is not small enough to get the hands into.

The other type dispenser in this group is the tilt-type. The construction is the same as the liquid tilt-type dispensers, in fact the same parts are used, the only difference being the dispensing unit which, in all cases, is a tube with a slot in it. When in normal position, this tube is in the powder. When tipped over, it scoops up a certain amount of soap which either runs out by gravity through the spout or is forced out by a plunger that operates by gravity.

All of the parts of the dispensers in this group are die castings. This metal seems to be satisfactory for powdered soap dispensers, there seeming to be little or no corrosive effects from the powdered soap. The finish is fair, and altogether this dispenser might be put in about the same class as the Group II liquid soap dispensers.

Class III: Ranging in price from $2.50 to $3.50 — There is only one dispenser in this class on the market: a cabinet type. The construction is quite unique and consists of a container for the soap to the bottom of which is attached a dispensing mechanism. The mechanism is the same as a wall type dispenser in Class II. The container, with the dispensing mechanism, is screwed directly onto the wall, and a heavy, pressed steel porcelain enameled cover is hinged to it at the bottom. This cover is equipped with a lock at the top and when it is closed in normal position, it covers the soap container and the entire dispensing mechanism, also the screws with which it is fastened to the wall, making it practically theft proof and tamper proof.

A hole in the bottom of the cover registers with the spout on the dispensing mechanism and a plunger is located on one side. This plunger has no direct connection with the operating mechanism but when the cover is in place, it registers with it and when pressed, operates it. To fill, the cover is unlocked and swung down on its hinge exposing the soap container for filling.

Class IV: These dispensers are all well made. Generally speaking, they fall in the same class as Group III liquid soap dispensers. They are, however, not available to the soap manufacturer or jobber, all being made especially for certain soap manufacturers and all being made to dispense that particular manufacturer's soap only.

Summing up powdered soap dispensers, while there are only a few on the market, they pretty well cover the field. Although powdered soap dispensers and powdered soaps were used in public washrooms long before liquid soaps, they nevertheless do not seem to be nearly as popular. The usual reason given by the buyers is that the cost of powdered soap service is so much more than liquid.

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Emulsion Floor Waxes

THE manufacture of water emulsion waxes* does not involve great difficulties provided certain basic principles are adhered to without marked variations. Those basic principles are the proper regulation of temperatures, correct weights of materials, the type and speed of agitation, and last, but by no means the least important, the rate at which the water and alkaline solutions are added to the wax, oleic acid, or similar acid, and the triethanolamine or other alkali.

In the course of experience with production problems, the main difficulty encountered with one type of formula, which apparently seems to be the process used in at least eighty per cent of the plants making emulsion waxes today, is the addition of the borax solution and the water to the formula based upon the use of triethanolamine oleate and straight carnauba wax. Aside from the difficulties encountered with the addition of the borax solution and the boiling water, there seems to be still another factor which is probably directly responsible for the difficulties encountered. That is the commonly recommended operating temperature of only ninety degrees centigrade.

Of still further importance is the fact that there are as many different "set-ups" of equipment required for the successful manufacture of this type of colloidal preparation as there are plants making the product. With this last fact in mind, a plant set-up will be described which will tend to remove most operating difficulties and should be fool-proof even in the hands of a non-technically trained individual.

Standard specifications on the composition of rubless wax suspensions or water emulsion waxes generally contain a reference to a solids content of about twelve per cent. The standard formula which follows shows a solids content of twenty and one-tenth pounds in a total of 119.42 pounds, or 16.83 per cent. That means that a considerable amount of water can be added to the finished formula when a solids content of but twelve per cent is desired,—and at a saving of several cents per gallon as well. However, experience indicates that the presence of shellac in the product is of little value. If any ammonia is desirable in the finished product, it can be added anyway. The product when prepared without the use of shellac does not seem to be any more slippery, that is, if the purpose of including shellac was to produce a non-slip effect. The formula in its original state is—

	Pounds
Carnauba wax	13.2
Oleic acid	1.5
Triethanolamine	2.2
Borax	1.0
Water	99.0
Shellac	2.2
Ammonia	0.32
Total	119.42

If the shellac is deleted from the formula and the water content increased to bring the solids content down to 12 per cent the formula becomes—

	Pounds
Carnauba wax	13.2
Oleic acid	1.5
Triethanolamine	2.2
Borax	1.0
Water	99.0
plus 32.21 lbs. additional	
Total	149.11

With this change in the original formula there is a gain of about four additional gallons of finished water wax at a saving of the cost of the shellac and the ammonia.

In the original formula, the directions state that the wax be melted first and then the acid added and the mixture stirred. While there is no fault to be found with this procedure so far, the fact still remains that many plants are being operated with boilers that have not sufficient steam pressure to reduce the wax to a liquid state within a short time. Generally, it takes from one to two hours thoroughly to melt the wax. This time element can be reduced considerably if the acid is added together with the wax in the kettle, as the presence of a liquid will tend to reduce the melting point of the mixture as a whole with no variations either in the color or the gloss of the final product.

The original formula also states that the temperature of the wax mixture should at no time ever be above ninety degrees Centigrade. Since steam pressure, especially as we find it in small plants, is not sufficient, the general result of trying to operate at so low a temperature over the melting point of the wax is hazardous. Based on experience, the temperature of the wax should be kept as close to one hundred degrees as possible and, as will be shortly indicated in a certain stage of the process, even this temperature exceeded slightly. The maintenance of a higher temperature will also tend to reduce the amount of unsaponified wax that generally cakes on the sides of the kettle if the stated temperature of but ninety degrees is used. *Care must always be exercised that all the wax be treated alike with alkali and acid as well as borax to insure uniformity of dispersion.*

The triethanolamine should be added very slowly with agitation after the wax and oleic acid have thoroughly mixed. While this is still not a

*Based on data of Charles S. Glickman as published in SOAP.

critical stage in the process, care should be exercised that *all* the triethanolamine intended for the wax solution be added. The high viscosity of triethanolamine often makes this a difficult task. One way of preventing any loss in alkali is to heat the triethanolamine in its container until it is very thin, and then the possibility of having any appreciable amount left is lessened. The container should then be rinsed with some of the borax solution, or if conditions prevent, then it should be rinsed with the water used for dilution after the addition of the borax solution. The rinsings should be added either to the borax solution, which is preferable, or to the boiling water. This addition of the alkali should be made very slowly with the agitator in full swing, and the solution after mixing should assume a *clear brown* color.

Peculiar as it may seem, the No. 2 and 3 North Country grades seem to give better results as regards particle size and fineness of dispersion than the best or No. 1 yellow grade. The average manufacturer seems to labor under the delusion that a dark wax will necessarily result in a dark color. While the finished product if prepared with the crudest grade of refined wax will not yield a pure white product, the color obtained is by no means objectionable as its appearance is light gray. Most of the commercial preparations are of this hue. It is furthermore necessary to heat the wax and acid prior to the addition of alkali to the point where most of the mechanically enclosed water is driven off. This appearance can be checked by the action of the wax upon heating. The heating should be continued until there is no more foam, or at least very little foam on the surface. This stage is important because the presence of water in the mixture prior to emulsification will *increase* the particle size with consequent loss of lustre.

THE first critical stage of the process is now reached. The temperature of the wax mixture containing the acid and alkali is raised to about one hundred and two or three degrees. The borax solution which should be boiling is added slowly in intermittent batches, if done by hand, or if added from another and smaller kettle should be permitted to flow in a very thin stream. The agitation must be continued and the temperature carefully controlled. The slight difference in temperatures between the borax solution and the wax mixture will insure adequate dispersion of the former in the latter. The borax solution virtually explodes itself into the wax mixture because of the difference in temperatures. The mixture at all times during the addition of the borax solution should not suddenly become a pasty yellow color. If for any reason such is the case, then the further addition of borax should cease, and the mixture stirred and heated until it becomes *clear brown* in color. Careful addition of borax will not however cause any failure in the preliminary emulsion to occur. The mixture after the addition of all the borax solution will undoubtedly have bubbles in it. It should be stirred until these bubbles have almost entirely disappeared.

The temperature which may have dropped several degrees during this last stage, should be carefully checked and if below one hundred or one hundred and two degrees should be permitted to rise again until this point is reached. The water heated to boiling is then allowed slowly to enter the wax and borax mixture. Agitation should be rapid and thorough and the color of the mixture in the kettle should remain clear brown. The mixture will gradually increase in viscosity and care should be taken that all additions of water are absorbed before further additions are made. When approximately sixty per cent of the total amount of water has been added, the appearance of the mixture suddenly changes and the clear brown and viscous mass suddenly seems to lose its viscosity and there now appear streaks of the clear brown mass in a milky solution. What actually occurs at this point is a matter which is open to considerable debate, but it is held that there is a change in phase from water-in-wax to wax-in-water and that appearance of clear brown streaks in a milky liquid is the point at which this change in phase takes place.

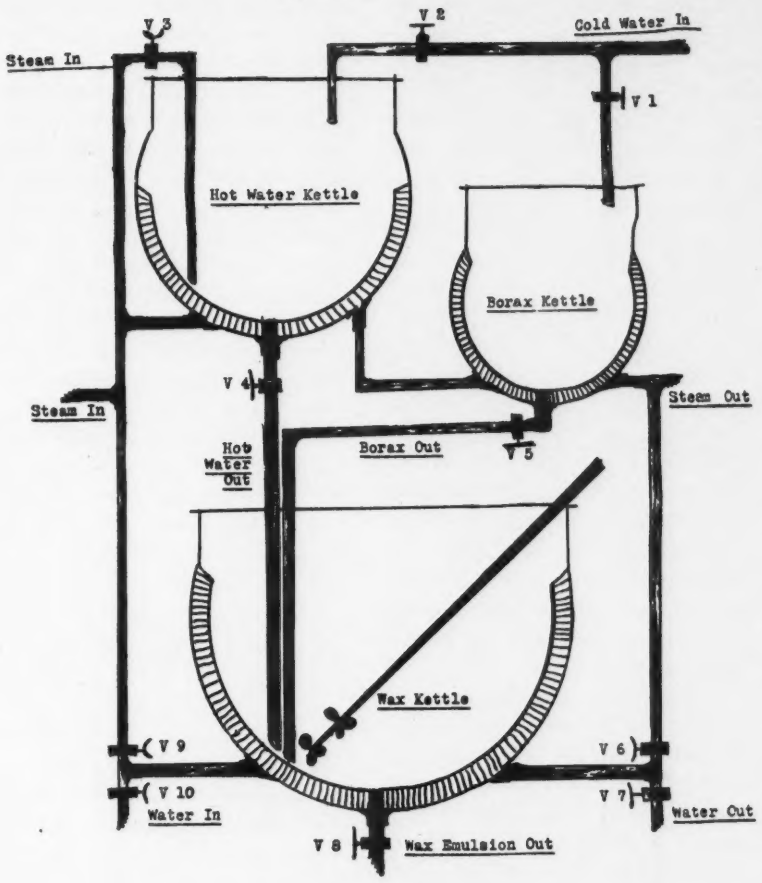
It would be well to note at this point that there is considerable deviation from the original procedure by recommending that *all* the water required be heated to boiling and added to the hot wax mixture. There have been occasions when the emulsion has been broken by the addition of cold water to the semi-dispersed wax. Addition of all the water will therefore eliminate another obstacle in the way of consistently successful production. When all of the water has been added, the solution will assume a grayish fluorescent and translucent appearance. It should then be cooled and filtered before packaging.

NOW that all the salient details of the preparation of this type of water emulsion wax have been covered, there is a new type of equipment arrangement and design which was created primarily for the production of this type of product with a minimum of difficulty and with a maximum of success in operation. Advantage has been taken of several old principles with a view to eliminating certain difficulties which have been responsible for improper batches of this type of colloidal suspension. The equipment is pictured in the accompanying diagram.

The equipment consists of a system of three jacketed kettles of varying sizes, all connected on the same steam line. They must be of the type having a "draw-off" from the bottom. Although the actual structural erection of the kettles has been omitted from the diagram, the upper kettles should be placed upon an accessible balcony over the main kettle.

The bottom or main kettle should also be above the floor level as it is necessary that the contents of the kettle be drawn off through the bottom. The two upper kettles should be jacketed ones and connected with the steam line in series with one another. They should both have avail-

Diagram 1.



able cold water inlets from the cold water line as shown in the diagram and these inlets properly fitted with suitable valves. These inlets are for the purpose of filling the kettles with the appropriate amounts of cold water when necessary,—that is, with the exception of the hot water kettle which has connected to it a steam outlet escaping into the kettle contents and opening below the surface of the water level. This additional steam connection is used for a preliminary heating of the water and the use of live steam for this purpose makes for easier operation.

It is unwise to use open steam in an unjacketed kettle as there is no means of telling what the contents of the kettle will be when the water has reached the boiling point unless one goes to the trouble of heating the water up and then draining off the excess. Proper operation of an open steam line in conjunction with a jacketed kettle should be as follows:—approximately three-quarters of the total amount of water, cold of course, should be admitted to the kettle and then the steam admitted. When the water has reached approximately eighty or eighty-five degrees centigrade the steam should be cut off and the remaining heating done by means of the jacket providing of course that the requisite amount of water is already present. One or two batches at the most will suffice in helping decide what amount it is preferable to place in the kettle at the beginning.

The borax kettle should be filled with weight for weight of water equal to the amount of borax to be used and all heating done with steam, or if feasible the hot water kettle should be placed slightly above the borax kettle so that hot water may be drawn from it into the borax kettle. Neither of these two kettles need be equipped with stirring equipment. What is required however is a suitable outlet leading from the draw-off of each of the two upper kettles and this draw-off pipe in either case should be of approximately one-half inch internal diameter. The reason for this small internal diameter is to prevent the flow of either the water or the borax solution from being too rapid when they are added to the wax mixture. Each should be equipped with suitable valves for adequate control over the rate of flow. These outlet pipes for the admission of water and borax should extend vertically downwards to the bottom of the main or wax kettle thereby permitting the escaping liquid to undergo sufficient contact with the melted wax mixture. The stirrer indicated in the diagram should be placed either vertically in the kettle or at an angle satisfactory for proper agitation. If possible, the borax inlet pipe extending into the kettle may be capped and a series of small holes drilled in both the cap and that part of the inlet projecting beneath the wax surface. The presence of a number of small holes in the end of the borax inlet will make for finer distribution of the alkali in the wax solution.

The main or wax kettle should also be jacketed and equipped as it was stated before with a high speed propeller type agitator preferably of a speed of twelve hundred revolutions per minute or over and with dual propellers so placed upon the shaft as to be as close to the water and borax outlets as is safely possible, It will be further noticed that the main kettle is fitted with a T-shaped coupling at the inlet and outlet points of the jacket. This is for the admission of cold water into the jacket if for any purpose it is necessary rapidly to reduce the temperature of the contents of the kettle. Each arm of the "T" is fitted with suitable valves for either admitting the steam or water or both at the same time if necessary. It will be noticed that both the inlets of the steam and cold water lines are at the same point.

While the purpose of having a supply of cold water available for

cooling the contents of the wax kettle is a dual one, only one phase of the purpose will be discussed here. In the event that the wax mixture prior to the addition of the borax solution becomes too hot, then its temperature can be controlled by means of the cold water. It would be necessary first of all to close the steam entry and outlet valves so as to prevent water from entering the steam lines, providing of course that there was no interference from the steam pressure to prevent this.

WHAT seems to be another difficulty that is usually encountered in the average plant is the determination of the temperature in any and all of the various kettles employed in the manufacturing process. So far, it seems that no kettles are equipped with a proper temperature device which will permit instant determination without scorched fingers and arms. What would probably be the best means of overcoming this important difficulty would be the use of either long stemmed varnish type thermometers or the side-arm type which could be fitted through the side of the kettle above the jacketing area. Comparison of a device of this type with the use of a standard type thermometer which is bravely dipped for an instant into the hot mixture and then rapidly withdrawn or else let dangle in the mixture at the end of a length of string or wire, leaves no room for any doubt as to what method is less painful and more desirable. In fact, it is necessary that all three kettles be so equipped.

The size of the kettles required for the regular preparation of batches ranging from twenty-five gallons to one hundred gallons at a time will be found in the following table—

Am't of Batch	*Borax Kettle*	*Water Kettle*	*Wax Kettle*
25 gal.	2 gal.	25 gal.	35 gal.
50 gal.	2 gal.	50 gal.	75 gal.
75 gal.	2 gal.	75 gal.	100 gal.
100 gal.	4 gal.	100 gal.	150 gal.

In numerous cases where steam plants consist of the ordinary type of steam boiler such as is used for the heating of homes and very small business establishments, and these steam plants are used as a source of heat for several kettles, the following table indicates the theoretical temperature of saturated steam, both Fahrenheit and Centigrade, in terms of gauge pressure of pounds per square inch.

Gauge Pressure	*Degrees C.*	*Degrees F.*
0	100	212
5	109	227
10	115	239
15	121	250
20	125	258

This table holds true providing there is no loss by radiation of heat or condensation in the line between the boiler and the kettles. As such a drop usually occurs the resulting temperatures attained by the jacketed kettle are much lower.

What seems to be the most practical source of heat for this type of equipment is the small gas-fired boiler that goes as high as one hundred or one hundred and fifty pounds pressure. It can usually be situated in close proximity to the kettles due to their compactness. Its ease of operation, usually automatic, and rapid production of a high pressure make it of extreme interest.

The following table indicates the amounts of wax, acid, borax, triethanolamine and water needed for the production of batches of water wax ranging from twenty-five gallons approximately to one hundred gallons in quantity. Following this table will be the description of the preparation of a batch of approximately fifty gallons on an equipment set-up such as was described and indicated in the previous diagram.

Am't of Batch	*Wax lbs.*	*Acid lbs.*	*Tri'amine lbs.*	*Borax lbs.*	*Water gals.*
25	19.8	2.25	3.3	1.5	23.63
50	39.6	4.5	6.6	3.0	47.26
75	59.4	6.75	9.9	4.5	70.89
100	79.2	9.0	13.2	6.0	94.52

For the preparation of a fifty gallon batch, approximately, of water emulsion wax by the process described and illustrated, exactly thirty-nine and six-tenths pounds of wax should be weighed out and placed in the wax kettle together with exactly four and one-half pounds of oleic acid, and the steam turned on by means of valve No. 9. Valves Nos. 4, 5, 7, 8, 10, and 3 should be kept closed. In other words, only the steam valves to the kettles are opened. The borax kettle should be filled with three pounds or pints of water and three pounds of borax weighed out carefully and placed inside to dissolve. About forty gallons of cold water should be admitted into the water kettle by means of Valve No. 2 and then the open steam line permitted to bubble slowly through the water by means of opening slightly Valve No. 3.

In the meantime, exactly six and six-tenths pounds of triethanolamine are weighed out in a small container and heated until quite liquid. When the water in the water kettle has reached about eighty degrees C., the steam should be closed by means of Valve No. 3 and the balance of the heating done by means of the jacket. If the water is not sufficient as is indicated by a point previously determined and so marked on the inner surface of the kettle, sufficient water should then be added to bring the total up to this mark. In the meantime if the wax and acid mixture has become *entirely liquid,* and the proper temperature reached, the agitator should be turned on and the hot triethanolamine slowly added. The solution at this point should show a clear brown color. The temperature of the wax mixture containing the acid and triethanolamine should be permitted to rise to about one hundred and one or two degrees C. If it rises higher before the borax solution has boiled, then it can be cooled to the proper temperature by closing Valves Nos. 6 and 9 and opening Valves Nos. 10 and 7 till the temperature has dropped sufficiently. The steam valves can then be opened after the cold water valves are closed.

If the borax solution has reached the boiling point by this time, then

Valve No. 5 can be opened slightly and the borax solution admitted slowly till it is entirely absorbed. The mixture during the addition of the borax solution should at no time ever become a pasty yellow or tan color, but should at all times be clear brown and viscous in appearance. Following the addition of all of the borax solution and after making sure that the temperature of the wax and borax solution is not below one hundred degrees C., Valve No. 4 should be slowly opened so as to admit a steady but very slow stream of *boiling* water. The wax mixture should absorb this water without any separation or alteration in color but with an increase in viscosity. If at any time, the mixture shows a tendency to separate, the further addition of boiling water should be halted and the stirring and heat continued till the mixture assumes the proper appearance. If the mixture fails to attain the proper appearance, then the addition of a small additional amount of triethanolamine will remedy the fault which is probably due to a mistake in the weight of alkali. The addition of boiling water should then be continued.

When approximately sixty per cent of the boiling water has been introduced into the wax kettle, there is a sudden change in viscosity and appearance. The solution instead of being very viscous becomes thin and the clear brown jelly-like mass seems to be dissolving in a milky solution. The addition of water should then be continued until all the water has been used. The solution which by that time has a considerable foam over its surface is stirred for some five or ten minutes more and then the steam closed by means of Valves Nos. 9 and 6. The batch is then ready for the final stage which if properly handled will result in a product of greater gloss and finer appearance.

Experiments have shown that the rapid cooling of colloidal suspensions tend to reduce the particle size. This principle while not true for all colloidal suspensions, seems to hold for preparations of this type. With the steam valves closed, Valves Nos. 10 and 7 are slowly opened introducing a flow of cold water into the jacket of the kettle holding the batch. The agitation is continued and the amount of water slowly increased till the solution has become cold. This rapid cooling, aside from increasing the gloss and adding to the general appearance of the product, also tends to remove an important difficulty. Generally when a batch was finished, it was allowed to cool overnight or else the stirring was continued for several hours until the batch cooled. If the batch stood over night, it developed a heavy, solid film of wax on its surface which either had to be redissolved with the aid of heat and agitation, or if the stirring were continued, a considerable expense as regards electric current was incurred. Forced cooling eliminates both of these difficulties and permits more rapid handling with a consequent saving of time.

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Household Ammonia*

THE usual materials employed in preparing household ammonia,—both clear and cloudy,—are ammonia, water, various kinds of soap, and sometimes lime water.

Under present market conditions, the cheapest source of ammonia is the commercial grade of 26° Baume aqua ammonia. This chemical is produced by absorbing ammonia gas in distilled water until the desired concentration is reached,—in this case, until the gravity of the solution gives a hydrometer reading of 26 degrees Baume.

To make a saleable product, the bottler must package a pure ammonia. Any off-color stock will show up when compared with other bottles on the dealer's shelves. The odor of ammonia must be the only one there, any tarry odors or the familiar nauseating odor of pyridine must be strictly avoided. The purchase of ammonia of synthetic rather than coal-tar origin will assure the bottler of the complete absence of all foreign odors and residues.

To be sure the drums of aqua ammonia he receives are of full strength, the bottler should be in a position to test them. It is also obviously desirable to be able to determine the strength of competitive bottled ammonia. The customary way to determine strength (ammonia content) is to find the gravity of a sample in degrees Baume.

When determining gravity or degrees Baume, care must be taken not to expose the sample to the air for too long a time as it will lose strength. Ammonia becomes lighter when warm. For this reason it is customary to base all hydrometer readings on 60 degrees Fahrenheit. For all practical purposes anywhere from 50 to 70 degrees Fahrenheit will give readings within one half of one degree Baume to the standard 60 degrees Fahrenheit.

Baume hydrometer reading	*Specific Gravity hydrometer reading*	*Percent by weight Ammonia in the sample*
10	1.0000	0.00
11	0.9929	1.62
12	0.9859	3.30
13	0.9790	5.02
14	0.9722	6.74
15	0.9655	8.49
16	0.9589	10.28
17	0.9524	12.10
18	0.9459	13.96
19	0.9396	15.84
20	0.9333	17.76
21	0.9272	19.68
22	0.9211	21.60
23	0.9150	23.52
24	0.9091	25.48
25	0.9032	27.44
26	0.8974	29.40
27	0.8917	31.36

When making the hydrometer reading, be sure the eye is even with liquid level. The appended table shows the relation between Baume hydrometer reading, specific gravity reading, and percent by weight of ammonia in the sample.

The addition of small amounts of soap to ammonia solutions imparts a silvery, iridescent cloud whose intensity increases on standing. The large bottler may find it economical to prepare his own soap from stearic and oleic acids.

It is poor economy to buy any but the best quality soap. The amount consumed is small and the possible damage done by an inferior soap can far offset any initial difference in cost. Some bottlers prefer to make their own soap by using stearic and oleic acids claiming that the cost is slightly less than that of prepared soaps.

The use of lime water to impart a cloud seems, in the main, to be waning. Clouds produced with lime water frequently assume a curdled appearance on aging. If lime water is used, it may be bought as such from any chemical house, or it can also be made as follows: 1. Fill a gallon jug three-quarters full of water. 2. Slowly drop in half a teaspoonful of slaked lime. 3. Shake well and let stand. Only the clear liquid on the top may be used.

Compounding

THE same proportions of water and ammonia may be used for both clear and cloudy products. The only difference is that soap is added to give the cloudy effect.

To make up clear ammonia, merely mix the necessary volumes of water and ammonia and bottle. In the case of cloudy ammonia, mix water and ammonia as usual and then add soap solution or other source of cloud.

The table herewith shows how much water to add to a gallon of 26 degrees Baume aqua ammonia to make a product of the desired strength.

In preparing clear ammonia solutions, it makes no difference which is put in first. Be sure to mix thoroughly or the product may not be of uniform composition. To prevent loss of strength, keep a lid over the mixing drum during bottling. A wood or corrugated paper cover will be satisfactory as long as it is kept dry. If ammonia collects on a wooden or paper lid and then runs down into the drum, discoloration will result. In such a case the use of a sheet iron cover will be necessary.

*Based on an article by David D. Catts, Cole Chem. Corp., in SOAP, July, 1937.

Strength of final product in degrees Baume	*Gallons of water to add to each gallon of 26 degree Baume Aqua ammonia*	*The final product will contain this per cent in weight of ammonia gas*
11	15.4	1.62
12	7.1	3.30
13	4.4	5.02
14	3.0	6.74
15	2.2	8.49
16	1.7	10.28
17	1.3	12.10
18	1.0	13.96
19	0.8	15.84
20	0.6	17.76
21	0.4	19.68
22	0.3	21.60
23	0.2	23.52
24	0.1	25.48
25	0.006	27.44

Cloudy Ammonia

THE most common method of imparting a cloudy effect to ammonia is the addition of soap. Another is to add soap and lime water. In this case, the lime water is first added to the ammonia-water mixture and the soap added later. For those who prefer to make their own soap the following is suggested:

a. Into a two gallon iron container pour three pints of water and then add two ounces of stearic acid and three quarters of an ounce of oleic acid.
b. Bring to a boil and stir to dissolve all lumps.
c. Remove source of heat.
d. While solution is still hot, (above 160° Fahrenheit) pour in one gallon of 16 degree Baume Aqua Ammonia. Stir vigorously until the mixture becomes uniformly milky. There should then be no lumps or solid matter remaining.
e. If for any reason, there does remain any solid matter, filter it out with a cloth or absorbent cotton filter.
f. This stock solution is then added to solutions of ammonia and water until the desired cloud is made. The usual concentration will be the entire above batch to fifty gallons of ammonia solution. For a lime water cloud, use the following:

a. Heat one and one half ounces of stearic acid to melting.
b. Pour this into three ounces of oleic acid.
c. Pour this mixture, while warm, into one and one half pints of hot water.
d. Then slowly add one-half pint of 26 degree Baume aqua ammonia with vigorous stirring. A creamy white liquid will result.
e. Dissolve three ounces of powdered castile soap in one quart of hot water and when completely dissolved add it slowly to the oleic acid and stearic acid mixture.
f. Mix well and make up to one gallon by adding hot water. This is the stock solution.
g. Mix ammonia and water to the desired concentration.
h. To every gallon of this ammonia solution, add one half ounce of clear lime water. Stir well.
i. To each 200 parts of ammonia and water, already containing lime water, (h) add slowly one part of the stock solution (f).
j. Stir while adding. The cloud will form slowly.

Milky Ammonia

THE popular milky ammonia may be made as follows:

a. Into a two gallon iron container, pour three pints of water and add two ounces of stearic acid.
b. Bring to a boil and stir vigorously to break up any lumps.
c. Remove source of heat.
d. While solution is still hot (above 160° Fahrenheit) pour in while stirring, one gallon of 16° Baume Aqua Ammonia.
e. Continue stirring until the mixture becomes uniformly milky.
f. When cool dilute with more 16° Baume aqua ammonia or bottle without dilution. The product will remain permanently milky. with only slight sediment formation, for a period of years.

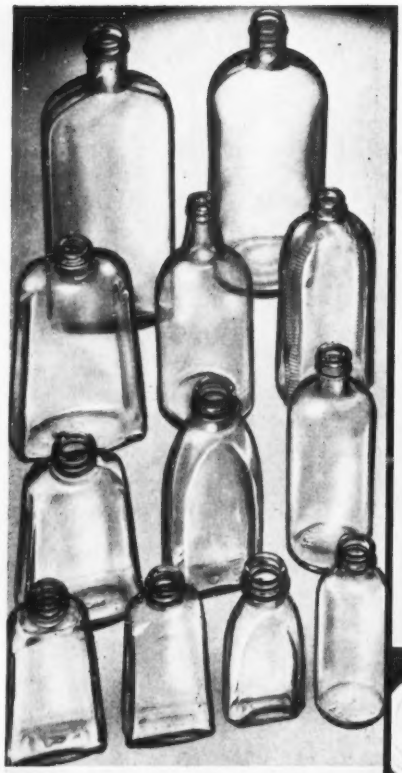
Sediment in Ammonia

IF a sediment is formed when ammonia and water are mixed, it is usually caused by the use of a very hard water or the presence of dirt or rust in the water. Alum is commonly used in the treatment of municipal water supplies, which might account for its presence in ordinary tap water. Rust is generally picked up in pipe lines.

Clear Ammonia when bottled will usually develop a slight flaky sediment on standing any length of time. This is from the glass bottle. Ammonia being an alkali, slowly attacks the silicate of the glass, causing silica to settle to the bottom. This does no harm, but gives a bad appearance. In cloudy ammonia this sediment will, of course, not be so visible.

If cloudy ammonia containing lime water curdles, add less lime water or cut it out entirely. If city water itself is hard, the addition of more lime may aggravate any curdling tendency. Trouble can usually be expected when using lime water.

If cloudy ammonia made with soap curdles and the curd floats, it indicates that during preparation the stearic and oleic acids were mixed with too little ammonia or at too low a temperature. Add the ammonia while the stearic acid and oleic acid are hotter. Stir more vigorously. Be sure you are adding ammonia to hot acid and not hot acid to ammonia. If the curd settles to the bottom, try using less stock solution thus forming a light cloud that will be less likely to curdle.



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White Shoe Cleaners

THE cream type of white shoe cleaner offered in a tube is a four-to-one choice over liquids, according to a recent survey* of the white shoe dressing field. While it is true that the large makers offer their product in both liquid and cream forms, the liquids predominate in retail outlets. Dealers have to date been slow to sense the shift but this condition will rapidly correct itself. This shift is significant to the manufacturers and if any have not yet given thought to the cream type, they may well do so.

The desirable characteristics of white shoe dressing in the apparent order of their importance are: 1. It must not rub off. 2. It must remove stains rather than mechanically coat or cover them. 3. It must be harmless to leather and fabrics. 4. It must lend itself to use without undue work and muss.

The liquids and creams have much in common, so will be discussed together. The liquid type lends itself better to the inclusion of a solvent or mixture thereof, since it runs three-fourths or more liquid against only about one-third in the creams. The pigment portion of six popular liquid brands ran 16.80; 19.12; 20.06; 20.32; 22.42; and 26.21 per cent while four creams ran 57.7; 59.1; 61.0 and 64.8 respectively.

Essentially white shoe dressing is made up of pigment, adhesive or binder, and a cleanser with or without the addition of a solvent or mixture thereof together with a preservative, if required, and perfume, if desired. The number of pigments that have been used is almost legion. Among those that have come under observation are zinc oxide, talc, china clay, bismuth sub-nitrate, precipitated chalk, whiting, zinc sulfide, lithopone, titanium dioxide, titanium pigments, and magnesium oxide and carbonate. But this by no means exhausts the list. Lithopone was present in most of the many brands analysed, representing the pigment in whole or in part, with zinc oxide next in favor.

Among the adhesives that may be employed are the various gums, particularly karaya and tragacanth, dextrin, glue or gelatin and albumin, borax or ammoniacal solution of bleached shellac, alkalized casein and soap. Among the cleansers are trisodium phosphate, triethanolamine, alcohol and other water soluble organic solvents and soap. Five of the best selling liquid brands were centrifuged and the supernatant liquid tried out practically. In no case did the liquid portion clean any better than clear water used as control. In this respect, manufacturers are missing their opportunity.

As for the preservatives, they are required particularly where the solutions of adhesives such as glue and albumin that are good culture media, are used. They include phenol, sodium salicylate, salicylic acid and certain essential oils.

Innumerable formulas could be set down readily but suggestions will be confined to one each of the liquid, cream and emulsion types with various modifications suggested. By experimenting with these variations, scores of formulas can be prepared to meet any individual needs, ideas or whims.

LIQUID SHOE DRESSING	
Lithopone	20 to 22
Disodium Phosphate	1 to 2
Bentonite	1 to 2
Perfume	0.1 to. 0.3
Water	79.9 to 73.8
To make	100

This is simply a mechanical mixture to which any desired amount of any chosen adhesive can be added, not overlooking the necessary preservative. As is, in comparative tests, it was a two to one choice over the best selling commercial liquid dressing. It is well to remember that the more binder used the more difficult it is to get uniform application, to brush or wipe off any excess and to prevent a "whitewashed" rather than the fresh new appearance that is sought.

The lithopone which is so widely used can be replaced in whole or in part with other pigments. For better spread, a little talc or zinc oxide may be employed, and the latter also helps the cover. Chalk, clay and other cheap materials may be used as extenders. The disodium phosphate may be replaced with trisodium phosphate, sodium silicate or triethanolamine or a few percent of liquid soap may be employed.

The bentonite prevents the pigments from hardening in and adhering to the bottom of the container, facilitates the shaking back in and retards settling while the product is in use. If the bentonite and extenders make the product off-white, a trace of ultramarine blue thoroughly incorporated with the pigments will be found helpful.

MOST of the remarks about liquid dressing are applicable also to the cream types. A small percentage of talc or zinc stearate will add a desirable slip to the cream in use. The soap used may well be good toilet soap base and the percentage used must be adjusted up or down dependent on its titre, the absorption capacity of the pigment combination employed and the desired consistency. By making it quite firm in body, the

*Made by Ralph H. Auch for SOAP and reported in the issue of November, 1937.

CREAM OR PASTE SHOE DRESSING			
Lithopone	60	to	65
Soap chips	6	to	8
Sodium silicate	0.25	to	0.5
Perfume	0.25	to	0.5
Water	33.5	to	26
To make	100		

"French shoe soap," type as offered for sale in opal glass jars of about two-ounce capacity at 25 cents retail can be prepared.

The sodium silicate is added to inhibit corrosion of the tin tube. Aluminum tubes are out on account of the presence of the soap, and lead tubes cannot be used because the lithopone in contact with the interior walls of the tubes will cause the cream to exude a dirty gray. So that low cost lead tubes will work, the lithopone can be replaced by titanium dioxide and inert extenders. Straight titanium dioxide is expensive and has a needlessly high covering power, so instead of adding an extender as such, use a titanium pigment with it already incorporated.

Some use the 25 per cent titanium dioxide and 75 per cent chalk (calcium carbonate). However the one corresponding to lithopone i.e. 25 per cent titanium dioxide and 75 per cent barium sulfate is to be preferred, for it costs but little more and has better cover than lithopone itself. This titanium pigment has more abrasive cleansing action than most any other pigment mixture that could be employed.

THE emulsion type of shoe dressing, containing organic solvents, is relatively expensive to make and being an emulsion, the method of preparation needs to be briefly outlined. The naphtha and carbon tetrachloride are mixed, the damar dissolved in the mixture and the pigment suspended in it. The triethanolamine is dissolved in the water and after warming to 135°F., the oleic acid is run in with agitation. It is then vigorously stirred while the gum, solvent and pigment mixture is run in in a thin stream. Care and skill is required to insure a stable emulsion.

Variations include adding a little gum elemi to the damar as a plasticizer, replacing the damar with dewaxed shellac, in which case alcohol is used as the solvent, and substituting linoleic acid for the oleic. A mixture of any other inert pigments may be used instead of the titanium. The solvent mixture is the usual home dry-cleaning mixture and if inflammability is of no concern, then the carbon tetrachloride can be replaced with naphtha or any other desired solvent.

EMULSION TYPE SHOE DRESSING			
Titanium pigment	20	to	24
Gum Damar	2	to	4
Triethanolamine	0.9	to	1.2
Oleic acid	2	to	2.5
Carbon tetrachloride	10	to	12
Naphtha	12	to	14
Water	53.1	to	42.3
To make	100		

This type is particularly suitable for smooth leathers where much less dependence need be placed on the covering power of the pigments and it must exert a more active cleansing action. This cleansing action can be both chemical and mechanical. The pigment scours and the triethanolamine soap cleanses, while the solvents exert their solvent action.

One criticism of commercial dressings generally is that the pigment has not been rubbed smooth and free of agglomerates and in the case of pigment mixtures they are not mixed intimately enough. One manufacturer was formerly known to add the pigment portion to each individual bottle then run the liquid portion in on it. To make a satisfactory smooth cream it is almost imperative that the product be milled on a roller mill, such as is used for paint or ink, before packaging. This may account in part at least for the limited number of this type of dressing available when the trend is definitely toward them.

In the liquid type, if bentonite is incorporated, it can be intimately mixed with the other pigments in the dry state, then sufficient water added to form a paste which should be milled before dilution in the other ingredients. As for the emulsion type, passing through a colloid mill not only disperses the pigment but stabilizes the emulsion as well.

NOW consider packaging. For the liquids in the better known brands, two ounces appears to be the accepted ten-cent size, although a newcomer is 2½ounces, and five ounces is about right for 20 and 25-cent retailers. Creams offered in tubes are 1½ to 1¾ ounces in the 10-cent, and 3½ to 4 ounces in the 20 and 25-cent sizes.

The liquids should be agitated while filling even though the pigment does not settle rapidly. The creams or pastes offer no particular problem in filling off into tubes, if handled cold.

Various applicators are provided in the package, although the survey indicates some are worse than none. A square of turkish towel is common but not in favor probably due to soiling so badly and the difficulty of cleaning it. A small cheap natural sponge is not well liked because small pieces constantly break off. A piece of mohair backed by a film of rubber to prevent penetration and attendant hand soiling is favored by some users. The square or elliptical shaped piece of sponge rubber is best liked, but not generally offered in the package. All are permanent handicaps because of their first cost and the extra labor cost of inserting in the package. One of the well-known newcomers encloses no applicator and stresses that his cleaner be applied with a *clean* cloth. His position in the matter is well taken, for the user can find a scrap of clean rag each time and is relieved of keeping the applicator in clean usable condition for as long as the contents last.

Carefully prepared directions that are simple and practical should be provided. Some make poor read-

ing and give even poorer results, if followed. Another current fault is that many brands carry directions on the carton and not on the container. The carton is ordinarily discarded long before the contents are completely used.

While most brands of dressings are held out for all types of white shoes, one well-distributed brand offers two liquids i.e. one for all fabrics and rough leathers and a second for kid and other smooth leathers. The first has a water base, whereas the second contains solvents. This appears to be the part of wisdom and the liquid and cream formula suggestions are good starting points for the former and emulsion type for the latter.

In addition to these three types, there is the "soap" modification of the cream offered in a jar but it enjoys but a limited following. There is also the loosely woven bag of solids to be carried in the purse for touching up soiled spots. Few apparently go to this trouble and in use, it is far from satisfactory. Still another is the nitrocellulose lacquer type best suited to shine parlor use for sole edging. However the tendency is away from white soles, especially in men's footwear generally and women's for sports wear. The only other application is for all-over use on cheap lacquered split leather shoes and these are an abomination at best. These latter types then have small potential markets that are waning so may well be left to the specialist.

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World Soap Consumption

THE tonnage of soap consumption of the United States is far and away the largest in the world, exceeding three billion pounds. This consumption is distributed among 120,000,000 people, embracing all levels of the population,—and uses for all purposes to which soap may be put. The resultant high per capita figure of 25 pounds is quite remarkable when it is considered that it represents such a large population. Netherlands which ranks second with 24 pounds, includes a total population of only eight-and-a-half million, and Denmark with 22 pounds only three-and-a-half million.

Laundry soap represents about 92 per cent of the world's soap consumption. The average for toilet soap throughout the world is about 8 per cent. In the United States, toilet soaps, including shaving and other soap specialties used on the body, are approximately 12 per cent of the total, about 85 per cent is laundry and industrial soaps, and 3 per cent is miscellaneous.

Among the leading European nations, the differences in per capita consumption from one country to another are comparatively small, except in the case of Italy, which is considerably below the average. Holland with 24 pounds. Germany with 21 pounds, and England and France with 20 pounds show a comparatively narrow spread. The average for the northern European countries is around 22 pounds. In sharp contrast to this is the Italian figure of 9.5 pounds. Spain, of course, is out of the picture temporarily, but it is believed that it was well under the Italian figure prior to the Spanish Civil War.

Among the Latin - American countries, Cuba is far ahead in per capita soap consumption with 19 pounds. Following closely together, but well behind Cuba, are Peru, Chile, and Brazil in that order, with Mexico, Argentina, and Colombia next in line. The highest of the South American republics is Peru with 7.8 pounds and the lowest Ecuador with 2.1 pounds. The table below gives other totals.

	Per Capita Consumption In Pounds	Population	Consumption in Pounds
United States	25	120,000,000	3,250,000,000
Netherlands	24	8,500,000	212,000,000
Denmark	22	3,500,000	77,000,000
Canada	22	10,000,000	220,000,000
Germany	21	65,000,000	1,350,000,000
United Kingdom	20	45,000,000	900,000,000
France	20	42,000,000	840,000,000
Cuba	19	3,700,000	70,000,000
Sweden	19	6,300,000	120,000,000
Italy	9.5	42,000,000	400,000,000
Peru	7.8	4,600,000	36,000,000
Chile	7.7	3,800,000	30,000,000
Japan	7	65,000,000	460,000,000
Brazil	6.8	31,000,000	211,000,000
Soviet Russia	5.7	175,000,000	1,000,000,000
Mexico	5	18,000,000	90,000,000
Argentina	4.5	8,600,000	39,000,000
Roumania	4.5	20,000,000	90,000,000
Colombia	3.5	6,000,000	21,000,000
Ecuador	2.1	2,000,000	4,200,000
British India	4 ozs.	360,000,000	90,000,000
China	2 ozs.	320,000,000	40,000,000

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We manufacture a suitable variety of odors for insecticide sprays. All of these odors are pleasant in character, powerful as to coverage and economical, costing on the average, less than TWO CENTS TO PERFUME A GALLON OF SPRAY.

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What Odor for INSECTICIDES*?

THE first household insecticide sprays on the market were ordinarily made with a base of the cheapest and rankest kerosene. In order to cover up this objectionable odor, the cheapest and most powerful perfume materials were used. Oils of citronella Java and citronella Ceylon, methyl salicylate and even oil of mirbane are well-known examples of the type of perfume used.

The combination of the products with a rank-smelling kerosene produced sprays which undoubtedly built up a tremendous amount of prejudice against their use. It is perhaps safe to say that the "remedy was worse than the disease." The correct spray, from a killing standpoint, in those days was doing a good job but nevertheless many people preferred to stick to the fly swatter rather than fill their homes with a highly disagreeable odor. This situation retarded the general sales of household sprays considerably, and it will still take quite some time before the unpleasant impressions connected in the minds of many people with household sprays will have disappeared.

Fortunately, the more alert manufacturers realized the importance of odor in the merchandising of fly sprays and further realized that the strong, cheap odor was as unnecessary as it was undesirable. Refinements were made in the kerosene base which opened a wide field in the choice of perfume materials. The past few years have shown a very decided trend in the direction of odor improvement, and away from the earlier cheapness and crudeness. There are now available many grades of oil bases ranging from an ordinary type of kerosene to a comparatively odorless, colorless, tasteless product. The list of perfume materials used has been broadened to include any products that make for improvement in quality of odor, consistent with practical costs. The modern well-perfumed fly spray must have an odor which is agreeable when smelled from the can. It must be pleasant, and not suggestive of kerosene when initially sprayed nor at any stage during its evaporation. Neither should the perfume be too obvious. A fly spray is ideally perfumed if it does not suggest kerosene at any stage of its use, and does not too definitely suggest perfume, but rather an atmosphere of pleasant, fresh and agreeable odor. At first thought, these may seem to be impossible conditions, yet I believe that many of the current American household sprays closely approximate this ideal.

The perfectly perfumed fly spray may be attained by the addition of a correctly balanced perfume to an odorless base, or to a good average grade of refined oil base. If the cheapest kind of kerosene is used, it is virtually impossible to cover completely the objectionable odor, without using an excessive amount of perfume.

The various manufacturers of petroleum products produce oils which usually exhibit individual characteristics, depending upon the quality and source of the raw material, and the degree of refinement. Most of the bases now used fall within a range of a minimum boiling point of 325° F. and a maximum of 510° F. Some of these oils have a preponderance of the lighter fractions and others contain a relatively small percentage of lights and a large proportion of the heavy, high-boiling, slow-evaporating fractions. Examination of scores of these fly spray bases indicates that every one is different, and that each one must be treated individually from the perfumer's point of view.

The perfuming of fly sprays requires highly specialized knowledge of the action and relative value of all available perfume materials in the medium to which they are added. Unless he has full knowledge of the effect of the completed insecticide on all perfume ingredients used, his results may be quite surprising and disastrous. It is not difficult to appreciate the fact that unless the bouquet is formulated on the basis of a complete knowledge of the value of all available perfume materials used in any particular insecticide base, the manufacturer may not be getting his money's worth in his choice of perfume. A three-dollar bouquet, if designed correctly, may be better dollar value than a six-dollar a pound oil made with very little knowledge of the effect of the base on the perfume.

LET us assume that we have a certain petroleum base to perfume and that it is complete with the addition of pyrethrum or other toxic materials. In order to determine the characteristics of the spray, we may

*Based on an article by Waldo F. Reis in SOAP, Oct. 1937.

Authorities on insecticide perfume

. . . . In the perfuming of household insecticides VAN AMERINGEN-HAEBLER, INC. has always shown the way. *First* to venture into the field. *First* to offer balanced perfumes which scientifically cover each odorous constituent of the base. *First* to successfully overcome the odor problem of new activators. *First* with the "send us a gallon" policy, which we repeat —Send us a gallon of your unperfumed spray base and let us submit our suggestions *in* your product.

VAN AMERINGEN-HAEBLER, INC.

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add two or three standard perfume bouquets in the proportion of 1 ounce to 5 gallons of oil, and then spray these in closed chambers. From observation of the effect of these particular bouquets in various types of oil, we can determine how well the new oil is covered at the initial spraying and throughout its various stages of evaporation. After this preliminary study, we are in a better position to understand the nature of the oil, and can try the effect of individual ingredients.

In determining upon the perfume materials than can be used in fly sprays, due consideration must be given to the following points:

a)—Certain perfume materials appear to have a tendency to reduce the toxicity of the spray. In this connection, essential oils which are high in terpenes or sesquiterpenes, and those which are apt to contain traces of water, are particularly to be guarded against.

b)—Perfumes must not stain or leave any residue.

c)—Perfumes must not irritate eyes, mucous membranes, or skin when sprayed.

d)—No insoluble gums or resins should be used. These products will make the spray cloudy, or will form an insoluble precipitate in the bottom of the container.

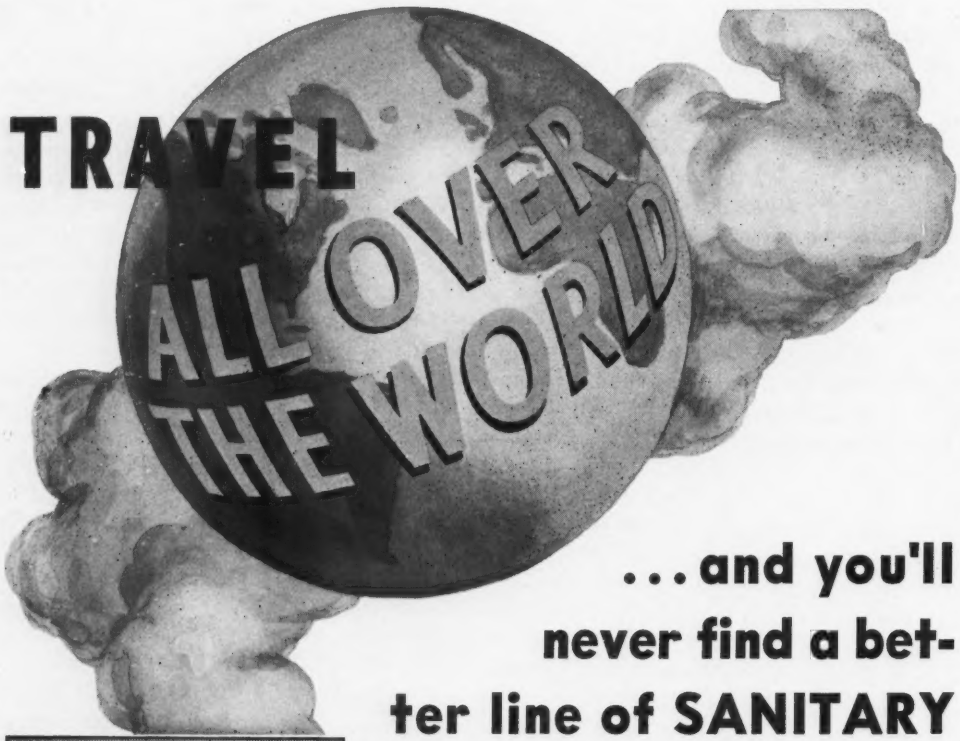
e)—Perfume materials should definitely be eliminated which have a tendency to deteriorate in the can, because of the kerosene or toxic material, or of any chemical effect of the metal.

The perfumer must necessarily classify his perfume ingredients to cover the various fractions of the spray. He knows just which materials to use to cover the sharp, penetrating initial odors, and uses entirely different products to take care of the lasting, high boiling fractions. The boiling points and rates of volatility of the various perfume ingredients often give a good indication of their merits in covering up the different fractions of the base oil. For example, benzyl acetate, with a boiling point of 216°C, and a comparatively high rate of volatility, could hardly be expected to cover the fractions of a kerosene that linger for several hours.

Lethane, the organic thiocyanate toxic agent, which is used in household insecticides in varying proportions,—possesses an odor different from the odor of any oil base or pyrethrum flowers. Perfumes for sprays in which lethane is used must be specially designed for that purpose. One cannot take a perfume, previously used in a spray which did not contain lethane, and expect to get as satisfactory an odor from the same perfume oil when used in a spray containing lethane.

When all preliminary testing of individual perfume materials is completed, the perfumer is ready to utilize his compounding ability to formulate the proper bouquet for the finished spray. The importance of this task is well recognized. The art of blending perfume materials to give a pleasing and agreeable result is a science which the manufacturers of fly sprays have fully appreciated. The perfumer also is naturally in a position to know the types of odors that are more universally acceptable to the consumer.

Recently some manufacturers have attempted to produce a completely odorless insect spray. This at the present stage of development is obviously impossible because of the very nature of the ingredients which must be used in the base. Pyrethrum and lethane both have characteristic odors which are apparent even in high dilutions, and cannot be removed, and therefore must be covered. And no odorless base has yet been made which does not exhibit, in spraying, some faint suggestion of petroleum. Furthermore, if such a spray could be produced, it might not be popular with the public. The addition of a properly designed perfume bouquet is, I believe, essential to make the product acceptable.



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Federal Specifications*

Automobile Soap (P-S-561)

Automobile soap shall be a pure vegetable oil paste soap containing no free alkali or acid, shall be relatively free from matter insoluble in alcohol, shall be homogeneous, free from adulterants of any kind, and without objectionable odor.

Matter volatile at 105° C. shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of volatile matter will be rejected without further test. The sum of free alkali and total matter insoluble in alcohol shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.2 per cent. Free acid, calculated as oleic, shall not exceed 0.2 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Unsaponified matter shall not exceed 4 per cent. Rosin shall not be present. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constitutents will be calculated on the basis of material containing 50 per cent of volatile matter.

Chip Soap (P-S-566)

Chip soap shall be a soap in chip form made from soda and fats, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for highgrade laundry work with soft water, when the presence of alkaline salts is objectionable.

Matter volatile at 105° C. shall not exceed 15 percent. Deliveries which yield more than 15 per cent of volatile matter will be rejected without further test. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 3 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Matter soluble in water shall not exceed 0.4 per cent. Titer of the mixed fatty acids prepared from the soap must be not less than 39° C. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 10 per cent of volatile matter.

Cake Grit Soap (P-S-571)

Cake grit soap shall be of the following types as specified: Type A—for fine work, such as glass and enamel; Type B—for scouring and scrubbing.

Type A—

Matter volatile at 105° to 110° C. shall not exceed 4 per cent. Deliveries which yield more than 4 per cent of volatile matter shall be rejected without further test. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 88 per cent nor more than 93 per cent. The insoluble siliceous material shall consist of not less than 90 per cent of ground feldspar. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° to 110° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall not scratch glass or enameled surfaces. The material shall be unscented and shall be of a light gray or white color.

Type B—

Matter volatile at 105° to 110° C. shall not exceed 5 per cent. Deliveries which yield more than 5 per cent of volatile matter shall be rejected without further test. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 3 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall not be less than 75 nor more than 85 per cent. The insoluble siliceous material shall be mainly quartz, and it all must pass through a No. 100 sieve. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° to 110° C., insoluble siliceous material, and alkali as alkaline salts. The cakes shall be well compressed and of a satisfactory degree of friability, which shall not be materially affected or lessened after immersion in or contact with water. The material shall be unscented and shall be of a light gray or white color.

Hand Grit Soap (P-S-576)

Hand-grit soap shall be a cake soap containing about one-third its weight of clean, finely divided insoluble siliceous matter, as free as possible from water, uncolored, unscented unless otherwise specified, thoroughly saponified, and well compressed in firm, smooth cakes.

Matter volatile at 105° C. shall not exceed 25 per cent. Deliveries which yield more than 25 per cent of volatile matter will be rejected with-

*General and detailed Requirements as specified in the Standard Stock Catalogue of the U. S. Federal Specifications Board.

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No matter what kind of soap you need or for what purpose you may wish to use it, Armour and Company are in position to help you.

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Laundry Soap (chips)
Laundry Soap (powdered and granulated)
Liquid Soap Base
Liquid Soap
Medicinal Soap (cake)
Medicinal Soap (liquid)
Mottled Soap
Oil Soap
Scouring Powder
Scouring Soap
Scrubbing Soap (liquid)
Shampoo Base
Shampoo Liquid
Soap Powdered (white neutral)
Soap Powders
Surgical Soaps
Textile Soaps
Toilet Soap Base
Toilet Soaps
Washing Powder

If you do not find exactly the type of soap you need in the list above, just drop a short note outlining your requirements. Armour and Company maintain a complete and practical Chemical Research Department on call at all times for rendering advice and suggestions. There is no obligation whatever for this service.

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out further test. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 1 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 25 nor more than 40 per cent. The insoluble siliceous material shall not yield more than 2 per cent of residue retained on a No. 100 sieve and not more than 10 per cent of residue retained on a No. 200 sieve. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be within 1 per cent of the difference between 100 and the sum of matter volatile at 105° C., insoluble siliceous material, and alkali as alkaline salts. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 25 per cent of matter volatile at 105° C.

Liquid Laundry Soap (P-S-586)

Liquid soap for laundry use shall be a clear solution of pure potash (or potash and soda) soap with or without glycerol or alcohol and containing not less than 12 per cent by weight of a volatile organic solvent or a mixture of such solvents. It shall yield a clear solution on mixing with soft water, shall quickly form a satisfactory lather, shall have no injurious effect and leave no objectionable odor on fabrics. Materials washed with this soap shall have, after drying, a soft feel and not appear more boardy or stiff than when washed with soft water.

The material shall be a clear solution, shall yield a clear, homogeneous solution on mixing with soft water, shall quickly form a satisfactory lather, and shall leave no objectionable odor on fabric. Total anhydrous soap shall be not less than the equivalent of 24 per cent potash soap. Total matter insoluble in alcohol shall not exceed 0.5 per cent. Free alkali, calculated as potassium hydroxide (KOH), shall not exceed 0.05 per cent. Chloride, calculated as potassium chloride (KCl), shall not exceed 0.3 per cent. Total matter insoluble in water shall not exceed 0.1 per cent. Volatile organic solvent shall be not less than 12 per cent. All constituents shall be calculated on the basis of the original sample. Fabric washed with the liquid soap shall show no more shrinkage or felting than occurs with similar fabric washed with soft water at the same temperature. Colored materials when washed with this soap shall not fade more than when washed the same number of times at the same temperature with soft water alone.

Ordinary Laundry Soap (P-S-591)

Ordinary laundry soap shall be a well-made, uniformly mixed laundry or common soap, made from soda and fats, with no excessive proportion of rosin and a moderate amount of matter insoluble in alcohol; shall be free from makeweights, and shall be suitable for use with moderately hard water for general cleaning and laundry purposes.

Odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on dishes or other objects after washing with a water solution of the soap and rinsing thoroughly with hot water. If desired, the odor of the material under the above conditions shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an air-tight, closed container for comparison with samples from deliveries.

Matter volatile at 105° C. shall not exceed 36 per cent. Deliveries which yield more than 36 per cent volatile matter will be rejected without further test. The sum of free alkali, total matter insoluble in alcohol and sodium chloride, shall be not less than 2 per cent nor more than 10 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Matter insoluble in water shall not exceed 1 per cent. Rosin shall not exceed 25 per cent. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 34 per cent of volatile matter.

Powdered Laundry Soap (P-S-596)

Powdered soap for laundry use shall be a soap in powdered form made from soda and fats, without rosin, as free as possible from water and all substances other than true soap, of a light uniform color, free from disagreeable odor, and suitable for high-grade laundry work with soft water, when the presence of alkaline salts is objectionable.

Matter volatile at 105° C. shall not exceed 7 per cent. Deliveries which yield more than 7 per cent of matter volatile at 105° C. will be rejected without further test. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 3 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Matter insoluble in water shall not exceed 0.4 per cent. Titer of the mixed fatty acids prepared from the soap shall be not less than 39° C. Residue retained on a No. 12 sieve shall not exceed 1.5 per cent. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 5 per cent of volatile matter.

Soap Powder (P-S-606)

Soap powder shall be a uniform mixture of soap and sodium carbonate in powdered form. It shall be readily soluble in tepid water, shall contain no free caustic alkali or inert filler, and shall be free from objectionable odor.

Anhydrous soap shall be not less than 15 per cent. Sodium carbonate (Na_2CO_3) shall be not less than 30 per cent. The aggregate of anhydrous soap and sodium carbonate shall be not less than 55 per cent.

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Salt-Water Soap (P-S-611)

Salt-water soap shall be a soap well made from pure coconut oil, pure palm kernel oil, or a mixture thereof, and the necessary alkali. It shall be entirely soluble in both sea water and fresh water and shall make a suitable lather.

Matter volatile at 105° C. shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of volatile matter will be rejected without further test. Total matter insoluble in alcohol shall be not less than 2 per cent nor more than 3 per cent and shall consist, essentially, of sodium carbonate (Na_2CO_3). Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.5 per cent. Matter insoluble in water shall not exceed 0.5 per cent. Chloride, calculated as sodium chloride (NaCl), shall be not less than 2.5 per cent nor more than 3.5 per cent. Rosin, sugar, and foreign matter shall not be present. The acid number of the mixed fatty acids prepared from the soap shall be not less than 240. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 55 per cent of volatile matter.

Potash Linseed Soap (P-S-613)

Potash-linseed-oil soap shall be a uniform translucent firm gel or paste made solely from whole neutral raw linseed oil and potash. It shall be of a yellowish white to greenish-brown color. Unless otherwise specified, each bidder shall submit with his proposal a 1-quart sample of the soap that he proposes to furnish, packed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries. Moisture shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of moisture shall be rejected without further test. The soap shall dissolve readily to give a 0.15 to 0.2 per cent solution, using distilled water at 10° to 15.5°C. (50° to 60°F.). The solution so prepared shall yield a good suds.

The material shall conform to the detail requirements as shown in the accompanying table. The percentage of moisture shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Detail Requirements for Potash Linseed Soap

	Minimum Per Cent	*Maximum Per Cent*
Moisture (xylol distillation method)	.....	55
Sum of free alkali and total matter insoluble in alcohol	.....	1
Free alkali, calculated as potassium hydroxide (KOH)	.....	0.1
Free acid	.....	None.
Chloride, calculated as potassium chloride (KCl)	.....	0.5
Matter insoluble in distilled water	.....	0.2
Unsaponified matter	.....	2
Anhydrous soap, calculated as potash soap	43	.....
Total sodium compounds, calculated as Na_2O	.....	0.5
Glycerol	4	0.5
Iodine number (Wijs) of mixed fatty acids prepared from the soap	175	.....
Rosin	.....	None.
Sugar	.....	None.

White Floating Toilet Soap (P-S-616)

White, floating soap shall be a cake soap, at least as good in every respect as one made from soda and a mixture of high-grade tallow with 25 to 30 per cent of coconut oil, of good light color, without objectionable odor, thoroughly saponified, and so prepared as to float on water.

Matter volatile at 105° C. shall not exceed 34 per cent. Deliveries which yield more than 34 per cent volatile matter will be rejected without further test. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.15 per cent. Chloride, calculated as sodium chloride (NaCl), shall not exceed 1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Rosin, sugar, and foreign matter shall not be present. The acid number of the mixed fatty acids prepared from the soap shall be not less than 212. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constituents will be calculated on the basis of material containing 28 per cent of volatile matter.

Liquid Toilet Soap (P-S-618)

Liquid toilet soap shall be a clear solution of pure vegetable oil potash (or potash and soda) soap with or without glycerol or alcohol, suitably perfumed, and free from all foreign matter. It shall quickly form a satisfactory lather and have no injurious effect and leave no objectionable odor on the skin.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave any objectionable odor on the skin or other surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water. Unless otherwise specified each bidder shall submit with his proposal a one-quart sample, placed in a screw-top glass jar, to show odor, color, and consistency. The sample so furnished shall be kept for comparison with samples from deliveries.

The material shall be a clear solution, free from objectionable odor, other than from coconut oil, and shall form a satisfactory lather. Total anhydrous soap shall be not less than the equivalent of 15 per cent potash soap. Total matter insoluble in alcohol shall not exceed 0.5 per cent. Free alkali calculated as potassium hydroxide (KOH) shall not exceed 0.05 per cent. Chloride calculated as

potassium chloride (KCl) shall not exceed 0.3 per cent. More than traces of sulphates and sugar shall not be present. All constituents shall be calculated on the basis of the original sample.

Milled Toilet Soap (P-S-621)

Milled toilet soap shall be a high grade, milled cake soap, as free as possible from water, either colored or uncolored, and mildly perfumed unless otherwise specified, thoroughly saponified, well compressed in firm, smooth cakes of a size and shape specified in the contract. It should lather freely when used with cold, soft, water.

Matter volatile at 105° C. shall not exceed 15 per cent. Deliveries which yield more than 15 per cent of volatile matter will be rejected without further test. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 1.5 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Matter insoluble in water shall not exceed 0.2 per cent. Unsaponified saponifiable matter shall not exceed 0.3 per cent. Rosin, sugar and foreign matter shall not be present. The percentage of matter volatile at 105° C. will be computed on the basis of the soap as received, but all other constitutents will be calculated on the basis of material containing 15 per cent of matter volatile at 105° C.

Powdered Toilet Soap (for dispensers) (P-S-626)

Powdered toilet soap for use in dispensers shall be a thoroughly saponified soap in powdered form, made from soda and fats; shall be uncolored and mildly perfumed, unless otherwise specified; shall be a uniform, free-flowing, noncaking powder; and shall lather freely when used with cold soft water.

The material shall be a uniform powder and shall be freeflowing and noncaking when used in a dispenser conforming to type III or IV of Federal Specification FF-D-396. It shall lather freely when used with soft water at room temperatures. Shall be mildly perfumed, unless otherwise specified. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries.

Shall be uncolored, unless otherwise specified. Matter volatile at 105° to 110° C. shall not exceed 6 percent. Deliveries which yield more than 6 percent of volatile matter shall be rejected without further test. The sum of free alkali, total matter insoluble in alcohol, and sodium chloride shall not exceed 2.0 percent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1percent. Matter insoluble in water shall not exceed 0.2 percent. Rosin, sugar, and foreign matter shall not be present. The material shall meet the following fineness requirements;

Retained on—	Minimum	Maximum
	Percent	*Percent*
No. 12 sieve		0.5
No. 45 sieve	50	
No. 100 sieve	90	

Caustic Soda for Cleaning (P-S-631)

Caustic soda shall be furnished in flake, coarsely powdered, or granular form, as specified by the purchaser. It shall contain not less than 90 per cent sodium hydroxide (NaOH) and not more than 4 per cent carbonate, calculated as sodium carbonate (Na_2CO_3).

Laundry Soda, (Washing Soda), (P-S-641)

Laundry soda shall be a white uniform powder composed of sodium carbonate and sodium bicarbonate. Total alkalinity, calculated as Na_2O, shall be not less than 39 per cent or more than 41 per cent. Matter insoluble in water shall not exceed 0.1 per cent.

Mechanics' Hand Detergent (P-D-221)

Detergent for mechanics use shall be of the following types, as specified: Type I—hand grit paste soap; Type II—hand scouring powder. It shall be a uniform mixture in paste or powder form, as specified, and shall be satisfactory for removing oil, grease, paint, printing inks, and other occupational soil from the hands of automobile mechanics, machinists, and other operatives without harmful effect on the skin.

Type I—(Hand grit paste soap).

The material shall be a uniform paste. The odor shall not be objectionable. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries. Volatile matter at 105° to 110° C. shall not exceed 55 per cent. Deliveries which yield more than 55 per cent of volatile matter shall be rejected without further test. Alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall not be more than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.02 per cent. Free acid, calculated as oleic acid, shall not exceed 0.2 per cent. Anhydrous soap, calculated as soda soap, shall be not less than 8 per cent nor more than 16 per cent. Insoluble siliceous matter shall be not less than 25 per cent nor more than 50 per cent and shall conform to the following fineness requirements:

Retained on—

	Minimum	Maximum
	Percent	*Percent*
No. 40 sieve	—	0
No. 60 sieve	10	20
No. 80 sieve	30	45
No. 100 sieve	35	55
No. 200 sieve	60	—

The material shall retain the consistency of a firm paste after keeping in a closed container for 6 hours at 30° to 32° C. (86° to 89.6° F.). The material shall not deteriorate when kept in an airtight container The percentage of matter volatile at 105° to 110° C. will be computed on the basis of the grit paste soap as received, but all other constituents will be calculated on the basis of material

containing 50 per cent of matter volatile at 105° to 110° C.

Type II—(Hand scouring powder).

The material shall be a uniform, free-flowing powder. The odor shall not be objectionable. If desired, shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries. Volatile matter at 105° to 110° C. shall not exceed 5 per cent. Deliveries which yield more than 5 per cent of volatile matter shall be rejected without further test. Alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 2 per cent nor more than 5 per cent. The alkaline salts shall consist of borax, sodium carbonate or a mixture thereof. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Free acid, calculated as oleic acid, shall not exceed 0.2 per cent. Anhydrous soap, calculated as soda soap, shall be not less than 17 per cent. Insoluble siliceous matter shall be not less than 60 per cent nor more than 76 per cent and shall conform to the following fineness requirements:

Retained on—	Maximum *Percent*
No. 60 sieve	5
No. 100 sieve	30
No. 200 sieve	60

Rosin or sugar shall not be present. All constituents shall be reported on the basis of the sample as received.

Sweeping Compound (P-C-591))

Sweeping compound shall consist of a uniform mixture of the materials as specified for each type and shall be artifically colored or uncolored as specified by the purchaser. If desired, shall conform to the color of a sample mutually agreed upon by buyer and seller.

Type I—(Mineral-oil compound).

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries. The material shall, on use, not stain flooring or adjacent surfaces. The material shall not give off flammable vapors when tested according to section F-2b. Material not meeting the test for flammable vapors will be rejected without further test. Water (matter volatile at 105-110° C.) shall be not more than 10 per cent by weight. Refined mineral oil (such as paraffin oil) shall be not less than 15 per cent and not more than 20 per cent by weight. Clean, fine, sharp sand or feldspar sand shall be not less than 35 per cent and not more than 50 per cent by weight. Not more than 1 per cent of sand shall be retained on a No. 20 sieve when tested according to section F-2j. Fatty oils shall not be present. The remainder shall be finely ground sawdust. Not more than 1 per cent of sawdust shall be retained on a No. 8 sieve when tested according to section F-2j.

Type II—(Water-wax-emulsion compound)

Odor shall not be objectionable. If desired shall conform to the odor of a sample mutually agreed upon by buyer and seller. The mutually agreed upon sample shall be kept in an airtight, closed container for comparison with samples from deliveries. The material shall not stain flooring surfaces on which it may be used. The material shall not give off flammable vapors when tested according to section F-2b. Material not meeting the test for flammable vapors will be rejected without further test. Water (matter volatile at 105-110° C.) shall be not more than 12 per cent by weight. Clean, fine, sharp sand, or feldspar sand shall be not less than 60 per cent and not more than 70 per cent by weight. Not more than 1 per cent of sand shall be retained on a No. 20 sieve when tested according to section F-2j. Finely ground sawdust shall be not less than 5 per cent and not more than 10 per cent by weight. Not more than 1 per cent of sawdust shall be retained on a No. 8 sieve when tested according to section F-2j. The remainder shall be waxes and emulsifying agents.

Paste Metal Polish (P-P-556)

Polishing paste shall consist of a uniformly mixed paste of such a consistency as to be easily applied. It shall be free from disagreeable odor and shall have good cleansing and polishing properties. It shall be free from acid, cyanides, or other ingredients having injurious effect upon metal, and shall not scratch metal.

Silver Polish (P-P-571)

Silver polish, types A. (liquid), and B, (Paste), shall consist of finely ground, white, diatomaceous or infusorial earth, suitably compounded with a neutral soap. Silver polish, type C, (powder), shall consist solely of finely ground, white, diatomaceous or infusorial earth, free from adulterants or foreign matter. Types A and B shall be free from acids or cyanides. All types of silver polish shall have good cleansing and polishing properties and shall contain abrasives of such fineness that 100 per cent will pass through a standard No. 200 sieve.

Stove Polish (P-P-576)

Stove polish shall produce a deep, lustrous black color when applied as directed by the manufacturer. It shall produce no odors upon burning and shall produce a durable coating that will not readily be burned off.

Type I.—Polish, stove, liquid, shall be of such consistency that the addition of a fluid will not be necessary in order to make it free-flowing. The vehicle of the polish shall be a non-inflammable liquid.

Type II.—Polish, stove, paste, shall be non-inflammable and shall be of such consistency that it can be readily applied.

Type III.—Polish, stove, powder, shall readily form a paste with

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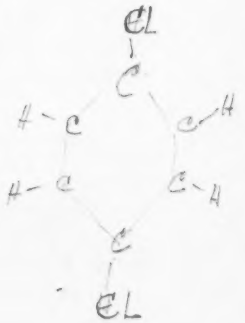

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water, and shall be non-inflammable.

Type IV.—Polish, stove, cake, shall readily disintegrate in water and form a paste and shall be non-inflammable.

Scouring Powder for Floors (P-P-591)

Scouring powder for floors shall be of the following types, as specified: Type A—for fine marble floors; Type B—for tile or ceramic and terazzo floors; Type C—soap scouring compound.

Type A—(For fine marble floors).

Matter volatile at 105° to 110° C. shall not exceed 10 per cent. Deliveries which yield more than 10 per cent of volatile matter shall be rejected without further test. The sum of sodium carbonate (Na_2CO_3) and anhydrous soap shall not exceed 7 per cent nor be less than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH) shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 95 per cent. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. The material shall not scratch nor discolor marble. The material shall be a uniform powder, shall be unscented, and shall be of a light gray or white color.

Type B—(For tile or ceramic and terrazzo floors).

Matter volatile at 105° to 110° C. shall not exceed 10 per cent. Deliveries which yield more than 10 per cent of volatile matter shall be rejected without further test. The sum of sodium carbonate (Na_2CO_3) and anhydrous soap shall not be less than 2 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 80 per cent nor more than 95 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than 10 per cent of residue retained on a No. 80 sieve. The material shall be a uniform powder, shall be unscented, and shall be of a light-gray or white color.

Type C—(Soap scouring compound).

Matter volatile at 105° to 110° C. shall not exceed 6 per cent. Deliveries which yield more than 6 per cent of volatile matter shall be rejected without further test. Carbonated alkali, calculated as sodium carbonate (Na_2CO_3) shall not be less than 6 per cent nor more than 20 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Anhydrous soap shall be not less than 3 per cent nor more than 10 per cent. Insoluble siliceous material shall be not less than 60 per cent nor more than 90 per cent. The insoluble siliceous material shall not yield more than 1 per cent of residue retained on a No. 60 sieve and not more than 10 per cent of residue retained on a No. 80 sieve. The material shall be a uniform powder, shall be unscented, and shall be light-gray or white in color.

Scouring Powder for Glass (P-P-596)

Shall be a fine, uniform powder, and shall be suitable for cleaning highly polished glass surfaces which must transmit light efficiently, such as cabin windows and windshields of aircraft.

The material shall clean glass surfaces satisfactorily without scratching the glass or leaving an oily or other film on the surface. The material shall be a uniform, free-flowing powder, shall be scented or unscented, and shall be white or light gray in color. Matter volatile at 105° to 110° C. shall not exceed 4 per cent. Deliveries which yield more than 4 per cent of volatile matter shall be rejected without further test. Alkali as alkaline salts (total alkalinity of matter insoluble in alcohol), calculated as sodium carbonate (Na_2CO_3), shall not exceed 5 per cent. Free alkali, calculated as sodium hydroxide (NaOH), shall not exceed 0.1 per cent. Insoluble siliceous material shall be not less than 85 per cent nor more than 93 per cent, and shall consist of ground feldspar or other insoluble siliceous abrasive that will not scratch highly polished glass surfaces. All of the insoluble siliceous material shall pass through a No. 100 sieve, and the residue retained on a No. 200 sieve shall not exceed 5 per cent. Rosin, sugar, and foreign matter shall not be present. Anhydrous soda soap shall be not less than 4 per cent and shall be within 1 per cent of the difference between 100 and the sum of the matter volatile at 105° to110° C., insoluble siliceous material, and alkali as alkaline salts.

Technical Trisodium Phosphate (O-T-671)

Technical trisodium phosphate shall be a white, uniform product in finely granulated form, and shall contain not less than 95 per cent of crystalline trisodium phosphate ($Na_3PO_4.12H_2O$).

It shall be a white, uniform, finely granulated product. Total alkalinity to methyl orange indicator, calculated as Na_2O, shall be not less than 15.5 per cent or more than 20 per cent. Phosphoric anhydride (P_2O_5) shall be not less than 17.7 per cent. Matter insoluble in distilled water shall not exceed 0.1 per cent. No residue shall be retained on a No. 10 sieve (sieve opening= 0.0787 inch) and the residue retained on a No. 100 sieve (sieve opening= 0.0059 inch) shall be not less than 50 per cent.

Soda Ash (O-S-571)

Soda-ash shall be of two grades as specified: Grade A—58 per cent ordinary (or light); Grade B—58 per cent dense.

Soda-ash shall be the high grade anhydrous sodium carbonate in powdered form and shall be the grade specified by the purchaser. It shall conform to the following requirements:

Total alkalinity of the material after drying for one hour at 150° to 155° C. shall be not less than 58 per cent calculated as Na_2O; equivalent to 99.2 per cent of sodium carbonate (Na_2CO_3). Hydroxide (NaOH), after drying the material for one hour at 150° to 155° C. shall

not exceed 0.1 per cent. Bicarbonate, after drying the material for one hour at 150° to 155° C., shall not exceed 0.5 per cent. Matter insoluble in water, after drying the material for one hour at 150° to 155° C., shall not exceed 0.25 per cent. The total sulphur calculated as sodium sulphide (Na_2S), after drying the material for one hour at 150° to 155° C., shall not exceed 0.1 per cent. Loss in weight on heating the material as received at 150° to 155° C. for one hour shall not exceed 1 per cent.

Grade A—Thirty grams of the light soda-ash (grade A) as received shall have a volume of from 55 to 65 milliliters.

Grade B—Thirty grams of the dense soda-ash (grade B) as received shall have a volume of from 30 to 40 milliliters.

Sodium Fluoride (O-S-601)

Sodium fluoride shall be a good grade commercial product in the form of a uniform, fine, dry, white powder, suitable for dusting, free from lumps or gritty material and practically free from matter insoluble in water. It shall contain not less than 90 per cent of sodium, fluoride, NaF, the remaining 10 per cent to consist of the usual impurities in a good grade of commercial sodium fluoride, such as sodium silico-fluoride, sodium bifluoride, sodium carbonate, sodium chloride, sodium sulfate, etc.

Insect Powder (O-P-571)

Insect powder shall consist of the powdered flower heads of Chrysanthemum (Pyrethrum) cinerariaefolium (Trev. Bocc.). It shall be a product resulting from the reduction to an impalpable powder of insect flower heads of the species named and free from added stems and other adulterants. It shall be made of flowers that have been properly harvested and cured so as to retain the maximum insecticidal efficiency and are free from mold, and the powder shall have the characteristic color and odor. It shall not contain insect flower stems in excess of the amount occurring attached to flowers as harvested, and in no case in excess of 5 per cent. It shall not contain more than 2 per cent of ash insoluble in dilute hydrochloric acid.

Floor Wax (P-W-141)

Floor wax, when applied in accordance with the manufacturer's directions, shall dry to a film that polishes easily to a hard flexible surface of a soft wax sheen. It shall not be so highly colored as to stain the surface; and shall dry within 20 minutes to a semitransparent nontacky film which shall show no signs of whiteness. Floor wax shall consist essentially of blended waxes in a volatile solvent. It shall be free from oil, soap, or rosin.

Type I (liquid).—Shall be a heavy bodied liquid mixture of sufficient fluidity to permit freedom of application at 20° to 25° C. There shall be no appreciable settling of the suspended material. The liquid floor wax shall be smooth and shall be free from all lumpy particles and granules. There shall be not less than 11 per cent, by weight, of nonvolatile matter in the liquid floor wax. The nonvolatile material shall meet the following requirements.

	Min.	*Max.*
Softening point	71°C.	....
Acid value	....	8
Saponification value	20	70
Ash content, per cent	....	0.5

The liquid vehicle shall consist of volatile solvents, such as turpentine, volatile mineral spirits, etc. The flash point of the volatile solvent shall be not less than 28° C. (closed cup).

Type II (paste).—Shall be a semisolid material at 20° to 25° C. There shall be no separation of liquid from paste. The paste shall be perfectly smooth and shall be free from lumpy particles and granules. There shall be not less than 20 per cent, by weight, of nonvolatile matter in the paste floor wax. The nonvolatile material shall meet the following requirements:

	Min.	*Max.*
Softening point	71°C.	....
Acid value	....	8
Saponification value	20	70
Ash content, per cent	....	0.5

The liquid vehicle shall consist of volatile solvents, such as turpentine, volatile mineral spirits, etc. The flash point of the volatile solvent shall be not less than 28° C. (closed cup).

Water Emulsion Floor Wax (P-W-151)

Floor Water-Emulsion Wax shall be furnished in two types and in one grade. Type I.—Regular. Type II.—Concentrated.

The floor water-emulsion wax, when applied in accordance with the manufacturer's directions, shall dry to a lustrous finish without rubbing, buffing, or polishing. The film produced shall adhere firmly to the surface without checking, cracking, or peeling and shall be transparent and practically colorless. The floor water-emulsion wax shall be suitable for use on sealed floors and floorings. It shall have no objectionable odor. It shall be a stable aqueous colloidal emulsion of waxes and resins. The emulsion shall be a free-flowing fluid that can readily be applied with an applicator such as lamb's wool, cotton cloth, or a mop to spread easily and homogeneously. The film so applied shall dry to a lustrous finish.

Water-emulsion floor wax shall meet the following requirements:

Type I.—Regular.

Nonvolatile matter (total solids).—Shall be not less than 12 percent.

Softening point of solids.—Shall be not less than 80° C.

Ash content (based on nonvolatile matter content).—Shall not exceed 3.0 percent.

Free caustic alkali—None.

Volatile solvents.—Shall be free from petroleum distillates and other organic volatile solvents.

Water solubility.—Shall be not more than 15 percent.

Dilution properties.—Shall be capable of dilution in any proportion with distilled water without breaking the emulsion.

Type II.—Concentrated.

Nonvolatile matter (total solids).—Shall be not less than 20 percent. Other characteristics same as above.

Available from stock—

1938 OFFICIAL TEST INSECTICIDE

THE 1938 Official Test Insecticide specified for evaluating liquid household fly sprays by the Peet-Grady Method under the new official specification of the National Association of Insecticide & Disinfectant Manufacturers, is stocked for prompt shipment in single six-ounce bottles or in boxes of one dozen six-ounce bottles. The 1937 Official Control Insecticide is now obsolete and should not be used.

Send orders or requests for information direct to the Executive Office of the National Association of Insecticide & Disinfectant Manufacturers, 110 East 42nd St., New York. The official test insecticide may be purchased by all firms or laboratories whether members of this Association or not.

▼

National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 EAST 42ND STREET NEW YORK

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N.A.I.D.M. SPECIFICATIONS

Official Specifications of the National Association of Insecticide and Disinfectant Manufacturers for

INSECTICIDES and DISINFECTANTS

Official Specification Liquid Household Spray Insecticide

(Adopted December, 1936)

1. A household spray oil type insecticide shall be harmless to man and warm blooded household animals, when used as directed.

2. When sprayed, as directed, it shall not stain fabrics, wall paper and general household furnishings, that are not stained by dry cleaning fluid.

3. When used in the customary manner it shall not contaminate closed packages of food materials commonly found in homes.

4. It shall not corrode metals.

5. It shall have no objectionable odor, and no particular odor shall be specified.

6. It shall have a flashpoint not less than 125°F. when tested in the Tagliabue closed cup.

7. It is recommended that it be purchased on a direct comparative basis with the Official Test Insecticide of the National Association of Insecticide and Disinfectant Manufacturers, Inc., by using the method of test specified on the bottles of the Official Test Insecticide.

8. The Association hereby adopts the following grades (the plus or minus figures shown therein designating the points over or under the Official Test Control Insecticide when the "Unknown" and the "Control" are tested at the same time in the same manner):

Designation	*Grade*	*Kill Classification*
AA	Excellent	+ 16 or higher
A	Very Good	+ 6 to + 15
B	Equal to Official Test Insecticide	+ 5 to — 5

■ ■

1. Standard Specifications for Liquid Hypochlorites Disinfectant, Deodorant and Germicide

Composition — Liquid hypochlorites are available in three forms: *one,* sodium hypochlorite alkaline with sodium hydrate, sodium carbonate or the other alkaline salts; *two,* hypochlorites which are essentially sodium hypochlorite and alkaline with calcium hydrate; and *three,* calcium hypochlorite solutions alkaline with calcium hydrate. A delivery of any one of these shall be satisfactory unless otherwise specified.

Physical Requirements — The hypochlorite solution shall be a homogeneous liquid. It shall be miscible with water of zero hardness at 20°C. (68°F.) in all proportions. It shall be ready for dilution when delivered.

Chemical Requirements — The available chlorine content which shall not be less than 2.5 per cent by weight shall be clearly stated on the label. Its rate of deterioration shall not be more than 10 per cent of its original available chlorine content when stored in the original container for six months in a cool, dark place at maximum temperature of 68°F. (20°C.)

Identification — Each container shall be marked with the name of the material, the brand (if any) of the material, the name of the manufacturer, net contents therein, and date of manufacture.

Packing — The hypochlorite shall be delivered in standard commercial containers of the size as called for in the schedule. Each contained holding one gallon or more shall be stoppered with a closure having vent.

2: Standard Specifications for Pine Oil Disinfectant

1. The product shall be manufactured from pure steam distilled pine oil and emulsifying agent and remain clear and homogeneous under normal and reasonable conditions of storage.

2. It shall contain not less than 60 per cent by weight steam distilled pine oil.

3. It shall contain not more than 10 per cent water.

4. The phenol coefficient shall be determined by the F. D. A. Method of Test against B. typhosus and be clearly stated on the label attached to each shipping container.

5. It shall not contain kerosene or other petroleum distillates.

6. The product shall make a stable emulsion in water of zero hardness at 20°C. (68°F.) when diluted at the rate of 5 per cent. The emulsion shall stand for at least twenty-four hours showing no sign of oil float (unsaponified or clear free oil).

3: Standard Specifications for Emulsifying Type Coal Tar Disinfectant

1. It shall contain not less than 65 per cent by weight of oils and acids from coal tar.

2. It shall contain not over 10 per cent water.

3. It shall not contain kerosene or other petroleum distillates.

4. The phenol coefficient shall be determined by the F. D. A. Method of Test against B. typhosus and shall be clearly stated on the label attached to each shipping container.

5. It shall make milky emulsions with water of zero hardness at 20°C. (68°F.) when diluted in the ratio of 5 parts disinfectant with 95 parts of water for disinfectants of coefficient 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts of water for disinfectants over 10 in coefficient; these emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

6. It shall remain limpid, showing no sign of naphthalene crystallization down to 0°C. in 12 hours.

7. It shall contain less than 5 per cent benzo-phenol.

8. The disinfectant shall stand indefinitely, showing no separation, no loss of germicidal value, or any form of decomposition (such as soap separating from the oil) under normal and reasonable conditions of storage.

4: Standard Specifications for Cresylic Disinfectants

1. The product shall be made from that portion of coal tar known as "tar acids" and a soap derived from a fat or oil of vegetable origin.

2. It shall contain not less than 50 per cent of tar acids, as determined by the method described in U.S.P. XI for the assay of cresol in the Saponated Solution of Cresol.

3. It shall contain not more than 25 per cent inert ingredients (water plus glycerine, if any).

4. The phenol coefficient shall be determined by the F.D.A. Method using B. typhosus as the test organism and shall be clearly stated on the label attached to each shipping container.

5. It shall contain less than 5 per cent of benzo-phenol.

6. It shall make clear solutions with water of zero hardness at 20°C. (68°F.) within the concentration range of from 1 to 4 per cent. Such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20°C. (68°F.) away from direct light.

7. It shall show no soap separation when cooled down to 0°C. and held at this temperature for 3 hours.

Lethane 384

Synthetic Insecticide Concentrate

BRINGS ADDED SELLING ADVANTAGES TO YOUR INSECTICIDES

Lethane 384 insecticides act three times as fast as sprays based on other insecticidal concentrates. This characteristic is easily demonstrated.

Lethane 384 insecticides are highly effective on a wide range of insects. Moths, bedbugs and other pests are controlled as well as flies and mosquitoes. For livestock sprays, Lethane 384 is an especially effective and lasting repellent.

Lethane 384 sprays are attractive. No discoloring impurities mar their appearance. Cloudiness and sediments are unknown.

Lethane 384 can be pleasantly perfumed. In fly sprays or exterminating sprays, this is an obviously desirable feature.

Lethane 384 sprays give consistent results. They always work the same, even after a long shelf life. Customers develop confidence that means repeat business.

See more about Lethane on page 52

RÖHM & HAAS COMPANY, INC.

222 West Washington Square PHILADELPHIA, PA.

930 N. Halsted St., Chicago, Ill. *215 W. Pershing Rd., Kansas City, Mo.*
P. O. Box 98, Oakland, Calif.

Canadian Agent: P. N. SODEN & CO., LTD., *Lachine, P. Q., Canada*

The Peet-Grady Method

*A Biological Method for the Determination of The Effectiveness of Household Insecticides**

I: SCOPE

THIS method of test is a means of determining the relative efficiency of contact liquid insecticides used in the form of a spray. It is purely a biological test and is, accordingly, subject to variations which accompany the reaction of living organisms to its final effects and influences, and, in order to get significant results, the test procedure should be strictly followed. In order to measure with reasonable tolerances the relative position of different insecticides, the test is designed to be used in conjunction with the "Official Test Insecticide" as the basis of comparison.

II: APPARATUS

A: Insectary

This room can be of any convenient size but constructed so as to be free from strong drafts, separate from the testing room, and maintained at a temperature between 80 and 85 degrees Fahrenheit and a minimum humidity of 50%. It should be separate from the testing room in order to minimize the possibility of traces of insecticide coming in contact with the test insects prior to the test.

B: Testing Room

This room can be of any convenient size capable of holding the Standard Peet-Grady Test Chamber and permitting adequate additional room for the operator to handle the test efficiently. While conducting tests this room shall be maintained at a temperature and humidity similar to that employed in the Peet-Grady chamber. Since the exhaust fan of the Chamber will remove relatively large quantities of air, the air inlet to this room should be constructed to permit air of approximately the specified temperature and humidity to enter the room.

C: Peet-Grady Test Chamber

The Test Chamber shall be constructed of wood or metal and lined so the inner surface is smooth and relatively non-porous. The Chamber must be externally braced and the inside must be free of cracks, projections, ledges, etc. The Chamber shall be a 6-foot cube by internal measurements, with a tolerance of plus or minus 1 inch for any dimension. One wall shall contain a tight fitting door large enough for a man to enter conveniently, with the interior side flush with the wall when closed. The remaining wall may contain glass observation windows in the center of each, while the ceiling contains in the center a glass window, 18 inches square, with a 200 watt light bulb set 6 inches above it for illumination. Opposite the entrance and above the observation windows a wire covered (10 mesh screening) air duct exit shall be provided to permit the ventilation of the chamber after a test. The four lower corners of the Chamber shall contain a 6 x 6′ square port covered with wire gauze and provided with tight fitting hatches. In one port, the gauze shall be removable to permit the introduction of flies. Each wall is to have two 1″ holes 6″ from the ceiling and 1 foot from the edge closed with corks to permit the introduction of the insecticide under test. The interior of the chamber is to be painted with either sodium silicate or an enamel insoluble in petroleum distillate.

D: Stock and Breeding Cages

These cages may be of any convenient size although suggested dimensions are: length, 18″, breadth, 9″, height, 10″. In order to maintain healthy insects, not over 1500 flies can be kept per cubic foot of cage volume and cages of the dimensions listed above will hold approximately 1400 flies per cage. The bottom of the cage may be made of ½″ boards to which the wooden frame for top and sides of ½″ is attached. The sides, top and one end are covered with 16 mesh wire screening, while the front (one end) is glass set in grooves to serve as a door.

E: Observation Cage

Observation cages are in the shape of a nine inch cube constructed similar to stock and breeding cages except the side opposite the glass door is a rubber sheet with a hole to permit insertion of the hand. This hole is closed by inserting a ¾ inch diameter jar cap.

F: Atomizer

The atomizer used shall be the special one constructed by the DeVilbiss Company for the N.A.I.D.M. Standardization Committee and obtainable from that company by referring to "special atomizer for Peet-Grady Insecticide Test—DeVilbiss Special No. 5004." The sprayer shall be operated with air maintained at a constant pressure of 12.5 plus or minus 0.3 pounds per square inch and must be free of oil, dust particles or condensed moisture.

G: Exhaust Fan

An exhaust fan capable of moving not less than 1000 cubic feet per minute minimum is used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

H: Test Insect

For evaluation purposes, the house fly (Musca domestica, L.) is used. Healthy individuals not less than three or more than five days old are to be used.

I: Reference Insecticide

The primary reference insecticide used in this test for evaluating the unknown shall be called the Official Test Insecticide (O.T.I.) and shall be prepared by the National Association of Insecticide and Disinfectant Manufacturers, Inc.

J. Insecticide Paper

The paper used on the chamber floor shall be known as "insecticide paper," 70 pounds, gray bogus paper, 40 inch width.

III: PROCEDURE

A: Raising and Handling of Flies

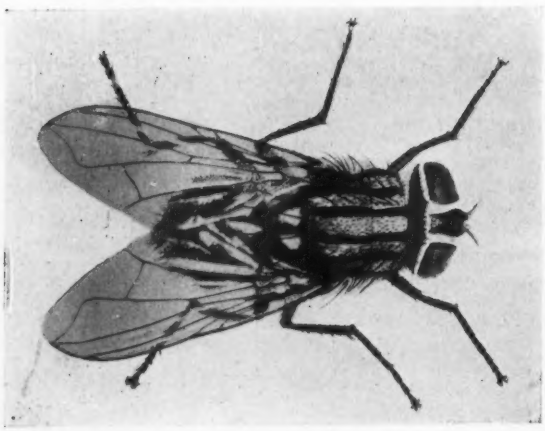
The method of breeding or setting up fly culture is considered the most important point for obtaining a uniform size and strength flies. Uniformly weak or strong flies can be obtained by varying the constituent proportions in the fly culture. The method described herein if followed strictly should give flies somewhat larger than the average wild flies and considerably stronger than the minimum strength considered satisfactory for testing by this method.

The first thing of importance for culturing uniform flies is the flies used as breeders. The age of the breeders should be between four and seven days. The eggs are either collected on wet cotton upon which has been placed a small piece of horse manure which is moistened and closely contacts the cotton so as to keep it moist or placed in a small jar of moist rearing medium. If the eggs are allowed to become dry, they will not uniformly hatch, throwing off the proportions in the final culture, as will be discussed later. When a sufficient quantity of eggs is obtained, they are collected in a graduated centrifuge tube containing some water and the eggs which float after the clusters have been carefully disintegrated, are discarded. The eggs in the bottom of the tube are now ready for addition to the culture jars,

*Issued as standard 1932: Revised 1937.

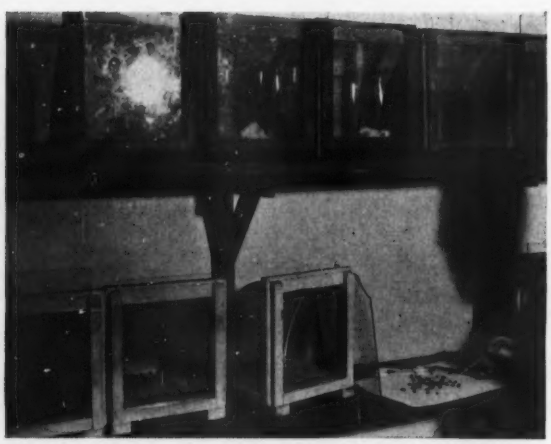
Maggots of the House Fly in Larval Stage.

Eggs of House Fly—Magnified many times.

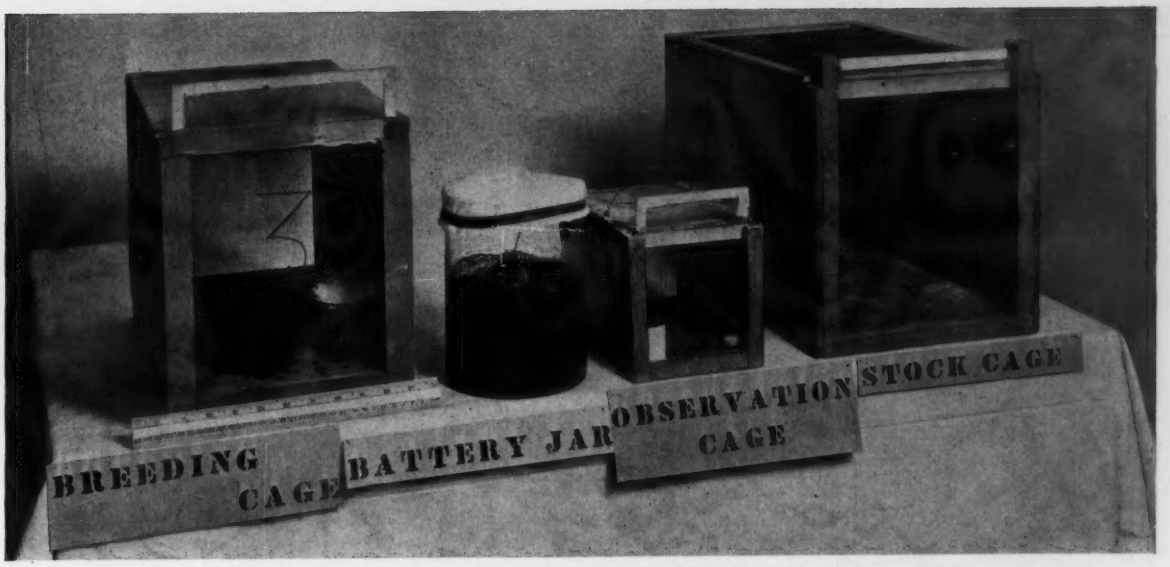


The Common House Fly, Musca Domestica.

The floor of the Peet-Grady Chamber ten minutes after spraying. These flies are carefully taken up and kept in an observation cage for 24 hours.

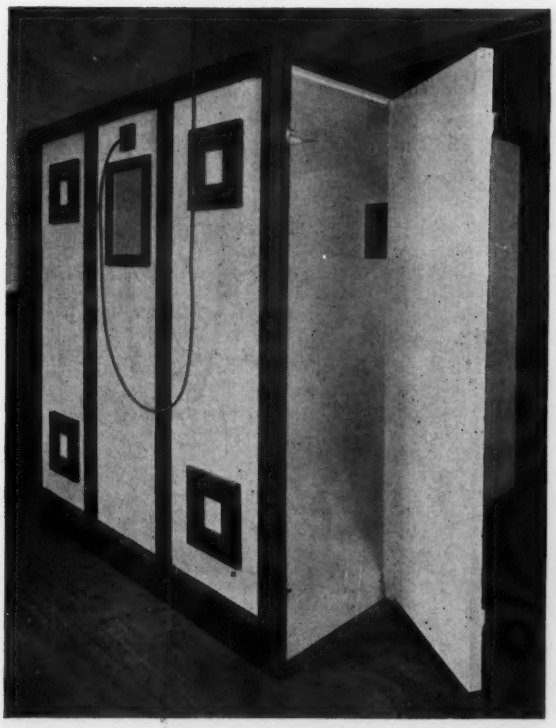


Left—24 hours after the test, the "deads" in the cage are counted.

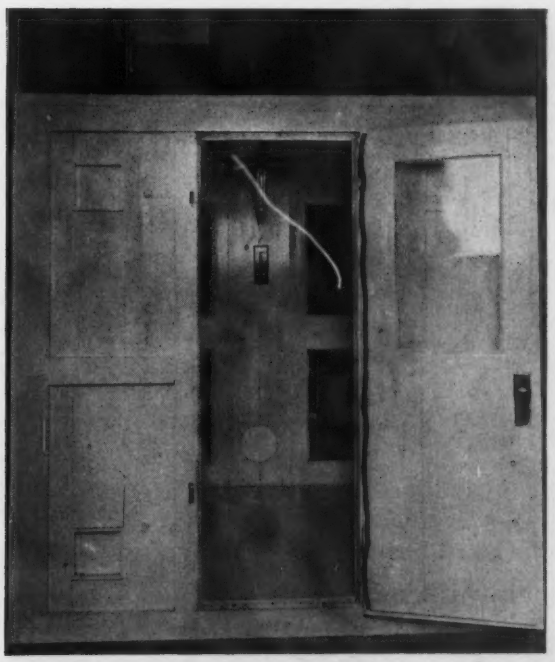


The Required Fly-Breeding Equipment for the Peet-Grady Method.

Exterior View of the standard Peet-Grady Test Chamber, which is a six foot cube.



View of the interior of the Peet-Grady Chamber, showing temperature and humidity control, and large pipe at top for rapid exhausting of the air following each test.



BREUER'S TORNADO ELECTRIC SPRAYERS

½ H.P. G.E. MOTOR
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
COMPRESSOR TYPE
1 GALLON CONTAINER

Do the sprayers you are using spray heavy drops—or break the insecticide up into a fine gas formation to give a dry spray like that produced only by Breuer's Tornado Electric Sprayers?

To get real results from your insecticide, use the Model 36, 53, or 54 Compressor Type Sprayers with exclusive volume control. Greater efficiency and longer life of these sprayers will make more profit for you in repeat orders and increased business. Build better business with Tornado quality!

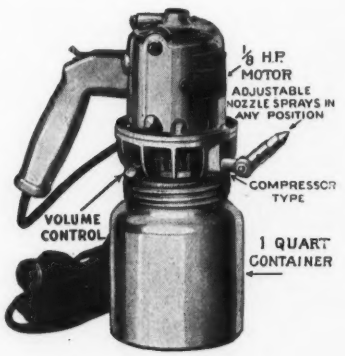
MODEL 36

At left above—This latest model combines automatic time switch, volume air control, one gallon capacity, 1/3 H.P. G. E. Universal Motor among its features. Sprays large volume great distances in finest gas formation. Penetrates every possible source of insect existence.

ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
1 QUART CONTAINER

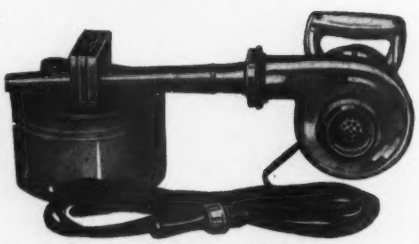
MODEL 54

At left center—This model is exactly like the Model 36 except for smaller capacity. ⅛ H.P. G. E. Motor with only one quart container. Also, like the Model 36, sprays desired amount of insecticide and then shuts off. Time switch may be set one to thirty minutes.

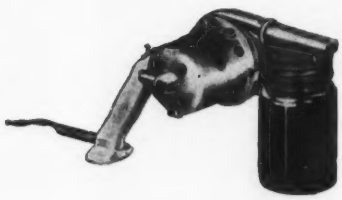


MODEL 53

Above—Exactly like the Model 54 except that it has no automatic time switch. Adjustable for fine or heavy spray. Like all Tornado Sprayers, the patented principle of heating and compressing material does the trick.



Above, Model 6 Fan Type Unit. Will spray either oil or water base insecticides. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.



At left, MODEL 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ½ H.P. G. E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable. Model 51 same as Model 50 except 1 quart glass jar capacity.

Write for latest bulletins

BREUER ELECTRIC MFG. CO.

863 BLACKHAWK STREET **CHICAGO, ILL.**

We do not sell insecticides. Our business is manufacturing sprayers. Approved by Underwriters.
Patented in U. S. A. and Foreign Countries

which should be done in as short a time as possible after the eggs have been prepared.

The breeding medium used is horse manure with added water, diamalt, and yeast or the artificial medium described later. The manure, which must be obtained fresh, is first pasteurized at 160 degrees Fahrenheit for two hours. This pasteurization is carried out in a closed container by means of steam coils surrounded by water. The cover of the pail containing the manure is removed before placing it in the pasteurizing kettle. This pasteurization is done to free the medium of any insect life which might be present when the material is obtained.

After the manure has cooled, it is shredded by means of an ice crusher, placed in battery jars, and packed down, leaving the jars about two-thirds full. Sufficient eggs are then added in the middle of the jar and about two inches below the surface to give 7200 eggs per cubic foot of medium. The eggs are measured by means of dropping from a graduated glass tube of about 4mms. inside diameter. The eggs are allowed to settle completely in the lower end of the glass tube and 1/10mls when properly settled in the tube are from 500 to 600 eggs. The eggs are then covered and the medium firmly packed over the eggs. 2400mls of a mixture containing 1½ pounds of bakers yeast (fresh) and 70mls. of diamalt in 2400 mls. is added per cubic foot of medium. The jars are then covered with muslin held on with either a rubber band or a screen cone. The muslin is necessary to prevent excessive drying in the upper part of the breeding medium, which results from the constant and thorough circulation of air in the insectary. The volume of water and covering over the jars may be different for the various atmospheric conditions existing in the different laboratories but should be such as to maintain a slight excess of liquid in the bottom of the jar and a thin dry layer on the top at the time pupation occurs.

In case the above medium is not available, it is permissible to use a synthetic medium prepared by mixing 8¾ pounds of wheat bran, 6½ pounds of alfalfa meal together in a large container. In another container, fourteen quarts of water, two fluid ounces of diastatic barley malt syrup and 1½ pints of yeast suspension are thoroughly mixed and this solution then incorporated in the bran-alfalfa mixture until uniform. The yeast suspension is made by thoroughly suspending ½ pound of baker's yeast in one quart of water.

The most critical constitutent in the medium, of course, is the number of fertile fly eggs added to each jar. A small number of eggs results in large flies, while a large number of eggs results in small flies which is no doubt due to the limited amount of food available. To overcome as far as possible the variation in the number of eggs used in each jar, the fertile eggs are separated from the infertile eggs by floating in water as described above, and the number of eggs used per jar adjusted to give 7200 eggs per cubic foot of medium.

B: Feeding

Although the method of feeding the adult flies and the kind of food used is not of as great importance as the culturing, proper feedings help to maintain a strong virile strain. The following mixture made up fresh daily in clean 6-ounce custard cups is kept in stock and breeder cages at all times. The cups are first half-filled with whole wheat bread cut into small pieces, after which about one or two grams of sugar and 10cc. of a yeast suspension containing ½ pound of yeast per quart are added. The dish is then filled with sweet milk, stirred, and immediately placed in the cage. In addition to the food, water-soaked cotton in a stender dish is kept in the cage at all times.

C: Handling

When flies are hatching from the culture jars, it is important that they are not left for too long a period before being transferred to the cages. Congestion of flies in the jars may result in injury to them and also lack of food and water for too long will weaken their physical strength.

In order to prevent possibility of any of the above dangers as well as to facilitate transfer of the flies to stock cages, special screen cones are made to fit the culture jars and are so constructed as to fit closely to the bottom of the cage when the cage is placed on a battery of the jars. Holes to accommodate eight jars and which should be corked from the top of the cage are also made in the bottom of each of the stock cages. Thus, when a set of jars start hatching, the stock cage containing food and water is placed on the jars and the flies migrate into the cage as soon after hatching as they are ready to fly or crawl. Each day's hatching is collected in a separate stock cage. This method not only prevents the dangers from congestion of flies in the jars but also eliminates frequent handling of the culture jars for transferring the flies to the stock cages, which is always accompanied by (1) disturbing the unhatched pupae and freshly hatched flies with possibility of injury, and (2) loss of adult flies into the laboratory.

Flies for tests are transferred from the stock cages to the Test chamber by means of any convenient method although the following is suggested: A small screen transfer cage with one end fitting the slide glass door in the stock cage, and the other end fitting one of the small doors in the test chamber used for airing out the chamber may be used. The advantages of this type of transfer are:

1. By taking flies off the end of the stock cage with a wide opening a better cross-section of the caged flies is obtained than is obtained if they are taken off the top through a small hole.
2. The number of flies being transferred to the test chamber can be more uniformly guessed with a small cage than can be done by transferring directly from the stock cage. The small transfer cage is also much easier to handle than the large stock cages.

D: Insecticide Testing

Approximately 100 flies are transferred to the thoroughly cleaned Peet-Grady chamber, the floor of which is covered with 70 pound gray bogus wrapping paper. All ports and entrances are closed and a total of 12cc. of insecticide in approximately equal quantities is applied through each top hole, the atomizer being swung to distribute the insecticide equally to all parts of the chamber. The chamber is kept closed for ten minutes from the time the spray is started. At the end of ten minutes, the square ports are opened and the exhaust fan turned on. The number of flies clinging to the ceiling and walls are counted and considered unaffected by the insecticide. The flies which have dropped are carefully gathered up and transferred to observation cages. At the end of 24 hours, the insects are counted and the number of alive insects added to those which remained flying or on the wall of the chamber.

The number of flies down at the end of ten minutes divided by the total number of flies liberated in the chamber gives "knockdown in ten minutes." The number of flies dead in the observation cage after 24 hours divided by the total number liberated gives the "percentage kill." To be counted as dead, an insect must show no signs of life upon being disturbed.

After each test and removal of flies, the chamber shall be thoroughly wiped out, using a cloth saturated with rubbing alcohol to which 15% acetone has been added. The paper used on the floor shall be changed after two successive tests per side.

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Insecticide Evaluation Method

Official Method of the National Association of Insecticide and Disinfectant Manufacturers for Evaluating Liquid Spray Type Household Insecticides In Conjunction with the Official Test Insecticide

1. The tests shall be conducted in accordance with the current Peet-Grady test procedure. After each test thoroughly wipe out the chamber using a cloth saturated with rubbing alcohol to which 15% acetone has been added. The gray bogus paper used on the floor should be changed after two successive tests per side.

2. The tests must show an average kill for the O. T. I. to lie within the range between 30 and 70% kill. The dosage of the O. T. I. and Unknowns compared with it may be altered, if necessary, to bring the average kill of the O. T. I. within the required range. It is desirable to cause the O. T. I. to kill between 50 and 60% of the flies.

3. No more than two Unknowns may be tested in conjunction with the O. T. I. in any one series. Ten tests of the O. T. I. and of each of the Unknowns shall be made in parallel; i.e., test each sample of the series the same number of times with flies of the same batch, and test every sample of the series the same number of times during any one day. The three samples in a series should be randomized in order of testing. For example, 1, 2, 3; 2, 3, 1; 3, 1, 2; etc., until thirty tests have been made. When only one Unknown and the O. T. I. comprise the series, the order should likewise be randomized. For example, 1,2; 2, 1; 2, 1; 1, 2; etc., until twenty tests have been completed.

4. The standard error of the mean difference between the average O. T. I. kill and the average Unknown kill must be less than 3. (See example under paragraph 6). If it is 3 or greater, the differences between pairs were too variable and to make the results valid additional paired tests must be run to bring the standard error of the mean difference down to 3 or lower.

5. Calculate the mean difference between kill obtained with the Unknown and that obtained with the O. T. I. Denote the difference between kills by the appropriate grade according to letter:

Grade AA—excellent	+16 or higher
Grade A —good	+6 to +15
Grade B —equal to O.T.I.	—5 to +5

Suggested Additional Method of Reporting kills. If it is necessary to supply a numerical value for the Unknown in addition to the grade designation, add a positive difference between Unknown and O. T. I. to 60 or subtract a negative difference from 60, and write + or —3 after the result. Thus, if an Unknown gives a kill 7 points higher than the O.T.I. it is given an "A" rating and a numerical evaluation of 67+ or —3. The latter figure indicates that other laboratories reporting on the same sample would probably report a kill between 64 and 70.

6. The following example illustrates the arrangement of tests and calculations described in the preceding paragraphs. When two Unknowns and the O.T.I. are tested in series, the first table should consist of differences between Unknown #1 and the O. T. I. the second table should show differences between Unknown #2 and the O. T. I. The method of calculation is shown in the sample below:

Pair	Date	Batch	Unknown No. 1 % Kill	O. T. I. % Kill	Difference	Deviation from Mean Difference	Deviation Squared
1	12/8	12/3	58	49	+ 9	+2	4
2	12/8	12/3	62	50	+12	+5	25
3	12/8	12/3	50	47	+ 3	—4	16
4	12/8	12/4	52	46	+ 6	—1	1
5	12/9	12/4	60	52	+ 8	+1	1
6	12/9	12/4	65	50	+15	+8	64
7	12/9	12/5	54	48	+ 6	—1	1
8	12/9	12/5	56	57	— 1	—8	64
9	12/10	12/5	51	44	+ 7	+0	0
10	12/10	12/5	57	52	+ 5	—2	4
			56.5M	49.5M	7.0 M.D.	0	180 sum d^2

Mean difference equal 7.0; Standard error of M.D.=

$$\frac{\sqrt{\frac{\text{Sum } d}{n-1}}}{\sqrt{n}} = \frac{\sqrt{\frac{180}{9}}}{3.16} = 1.42$$

1.42 is less than 3, thus indicating the test has been properly conducted.

The letter n (in formula above) denotes the number of paired tests. This number is always 10 except when it is necessary to run additional tests to bring the standard error of the mean difference down to 3 or less.

The Unknown in the example above tests 7 points better than the O. T. I.; therefore, Unknown #1 is an "A" grade insecticide having a numerical rating of 67+ or —3.

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Manufactured by our own process, in various grades, to give the maximum amount of disinfecting and cleansing value. Contain not over 10% of water. Free from mineral oil and other adulterants. Supplied in strengths from two to twenty times that of pure carbolic acid. All grades are of the highest quality, uniform in composition, dilute readily with water to form rich, milk-white emulsions, without oily float or sediment, and have an agreeable odor of tar. These disinfectants do not deteriorate with age but are effective to the last drop. Every batch is subjected to rigid chemical control in our plant, under the supervision of trained chemists, and then tested for germicidal strength (the power to kill disease bacteria) by competent bacteriologists.

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Prepared from pure steam-distilled pine oil. Dilute easily to form a good white emulsion which does not separate on standing. Baird's pine oil disinfectants have a germicidal strength three to five times greater than pure carbolic acid.

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Also known as Liquor Cresolis Compositus, U. S. P., and commonly referred to as Cresol Compound. Contains 50% of Cresol, U. S. P., and is manufactured in strict conformity with the specifications of the United States Pharmacopoeia. Is light amber in color and has a characteristic odor of cresol. Largely used by hospitals, physicians, surgeons and veterinarians. Carbolic coefficient about 2.5.

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Pes-Tox is a light, amber-colored liquid prepared from high grade pyrethrum flowers. It is used in the form of a spray. The ingredients are 100% active, and when properly applied will quickly kill flies, mosquitoes, moths, fleas, hornets, wasps, centipedes, spiders, cockroaches, bed-bugs, ants, lice and vermin which may infest the home or other premises. Pleasantly scented.

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Disinfectant Testing

Official Method of U. S. Food & Drug Administration, U. S. Department of Agriculture, and National Assn. of Insecticide and Disinfectant Manufacturers for Determination of Phenol Coefficients of Disinfectants

By G. L. A. Ruehle and C. M. Brewer

U. S. Food and Drug Administration

ALL antiseptics and disinfectants shipped or offered for shipment in interstate commerce or offered for import into or export from the United States are subject to the provisions of the Federal insecticide act, the Federal food and drugs act, or both. In the enforcement of these acts it is necessary to determine the accuracy of the bactericidal and antiseptic claims made for such products. A number of methods have been developed for determining bactericidal effectiveness, but all of them possess certain disadvantages. Of course it is impossible to devise tests which will apply in all cases, but during the past 20 years the Insecticide and Fungicide Board and the Food and Drug Administration have found certain methods to be particularly well adapted to their purposes.

Confusion has arisen from the fact that, in many cases, manufacturers have not used the same methods of testing their products, as a basis for preparing their labels, as those used by the administration. This possibility of misunderstanding would be obviated if the same methods were employed by all, and many manufacturers, recognizing this, have requested information as to the methods employed by the Food and Drug Administration. In view of this, it seemed desirable to publish them in a form which would make them generally available.

This circular, therefore, describes briefly the methods usually employed in the insecticide control laboratory for testing official samples of antiseptics and disinfectants. No attempt is made to review the literature of disinfectant testing in detail, but the most important papers relating to the methods here presented are cited.

Determination of Phenol Coefficient[1]

There are in general use at the present time three methods of determining the phenol coefficient; the Hygienic Laboratory (H. L.) method (11)[2], that of Rideal-Walker (R-W) (7), and the method developed by this laboratory. It has been realized for a long time, especially among qualified workers in the field of phenol coefficient testing, that there were numerous handicaps and minor deficiencies to be encountered in the routine manipulation of both the H. L. and R-W methods. Lloyd P. Shippen, formerly bacteriologist of the Insecticide and Fungicide Board, after much experience in the testing of disinfectants, devised a method for obtaining phenol coefficients, utilizing as its basis the best features of the two older tests. Under pressure of a great volume of routine work this method was first put into practice more than 15 years ago and found to be so satisfactory that it has come to be used for testing the great majority of the germicides now received at the Food and Drug Administration.

George F. Reddish, successor to Doctor Shippen, later published this method under the name, "The R-W modified method" (5).

The procedure of Shippen has been little changed, but the standards for the resistance of the test organisms, *Eberthella typhi* (Schröter) Buchanan,[3] and *Staphylococcus aureus* Rosenbach, have been firmly established and provisions for the use of other organisms have been added. The method, as here published, is designated the "Food and Drug Administration phenol coefficient method" or briefly, the "F. D. A. method."

The differences in the three methods are shown in Table 1. (See Next Page).

There need be very little confusion arising from substituting the F. D. A. method as a test for products previously tested by either the R-W or the H. L. methods. The phenol coefficients of the large number of substances chemically related to phenol (the only type of disinfectants for which the H. L. method is accepted) (11) are, in most cases, practically the same, whether tested by the F. D. A. or the H. L. method. Not only has continued use of the method in this laboratory shown this to be true (2), but collaborative experiments in five other laboratories (unpublished) confirm this fact. In comparing this method with the R-W method, similar results in general are obtained, although a somewhat lower coefficient usually results with coal-tar products having high coefficients. However, the higher results sometimes obtained by the R-W method may be misleading. R-W broth is not well adapted for the optimum growth of the test organism; hence negative subcultures frequently indicate that the organism has been killed, when in fact it may have been only rendered incapable of growing in this culture medium.

The curtailment in labor, time, and material through the use of the F. D. A. method renders it particularly valuable where a large number of samples are involved. The F. D. A. method is considerably superior to the R-W method in producing consistent results (4, 12). The medium employed is better adapted to bacterial growth, and the technic is not restricted to the use of one test organism (*Eberthella typhi*) as is the case of the R-W and H. L. methods. Moreover, the stock cultures of *E. typhi* and *Staphylococcus aureus*, the organisms principally used in germicidal testing, remain sufficiently constant in their resistance to phenol, when grown on an adjusted medium, to necessitate but one phenol control, though two controls are used frequently as an additional check. This allows the use of nine dilutions of the unknown with 30-second intervals between transfers, or 14 when 20-second intervals are used. With a little practice, 20-second intervals allow sufficient time.

The F. D. A. method will be used by this laboratory in determining the dilutions at which miscible coal-tar disinfectants, and many other products to which the

[1]For the benefit of those unfamiliar with testing disinfectants a brief statement of the principles of determining phenol coefficients is made. The phenol coefficient is a figure expressing the ratio of the killing efficiency of a disinfectant as compared with that of phenol tested under identical conditions. The sample to be tested is diluted and the dilutions arranged in a series of decreasing concentrations (increasing dilutions). To these a specified amount of the test organism in broth culture is added. At the end of fixed periods of time a small portion of the mixture of diluted disinfectant and test organism is transferred to a nutrient culture medium and incubated. No growth in the subculture indicates that the organism has been killed. The greatest dilution (weakest concentration) of the disinfectant killing in a definite time period is divided by the greatest dilution of phenol killing in the same time period. This ratio is the phenol coefficient. It should be noted that the phenol coefficient is not based on a comparison of different time intervals but on a comparison of different concentrations acting for specified time periods.

[2]Numbers in parentheses refer to Literature Cited. Page 163.

[3]Throughout this paper the term *Eberthella typhi* is used for *Bacillus typhosus*, in accordance with the nomenclature adopted by the committee on classification of the Society of American Bacteriologists (1).

Koppers Tar Acids

Description and Specifications—Koppers Tar Acids and Tar Acid Oils are highly refined natural acids derived from coal tar. Unusually low in impurities. Substantially uniform in composition in successive shipments. The specifications for some of the acids and oils of major importance to the soap and disinfectant industries are given in Tables I and II. Special grades furnished to meet individual requirements.

TABLE I—SPECIFICATIONS FOR KOPPERS TAR ACIDS
(Special grades furnished to meet individual requirements)

Grade	Distillation and Melting Point	Sp. Gr.	Phenol
90% Phenol	Dry Melting Point NLT 34.5°C. 95% not above 185°C.	1.055 to 1.063	NLT 90%
82% Phenol	Dry Melting Point NLT 29.0°C. 95% not above 187°C.	1.050 to 1.060	NLT 82%
Cresol U. S. P.	90% distills in 7°C. range, lying between 195 and 205°C.	1.040 to 1.045	NMT 9%
Special Cresol	90% distills between 190° and 200°C.	1.045 to 1.055	
Disinfectant Cresylic Acid, S.D. Grade	50% not above 207°C. Dry below 225°C.	1.030 to 1.040	NMT 10%
Cresylic Acid—1-A Grade	50% not above 210°C. Dry below 225°C.	1.025 to 1.035	NMT 10%
Cresylic Acid—1-B Grade	50% not above 213°C. Dry below 230°C.	1.025 to 1.035	NMT 10%

Additional Specifications for all of the above grades of tar acids: Oil and Naphthalene NMT 0.40%, Pyridine NMT 0.10% and moisture content NMT 1.0%.

Specific Gravity determinations are made on phenols at 45°/45°C. and on all other tar acids at 15.5°/15.5°C.

CONTAINERS—6,000 and 8,000 gal. tank cars. 110-gal. 14-ga. I.C.C. drums. 55-gal., 16 and 18-ga. I.C.C. drums. 5-gal. Benco cans. 1-gal. Boxed Varnish cans.

TABLE II—SPECIFICATIONS FOR KOPPERS TAR ACID OILS
(Special grades furnished to meet individual requirements)

Grade	Coefficiencies Obtainable	Crystal Free Point	Phenol
35% Frozen Tar Acid Oil	Not less than 5FDA	Not over 0°C.	Not more than 7%
30% Frozen Tar Acid Oil	Not less than 4FDA	Not over 0°C.	Not more than 7%
25% Frozen Tar Acid Oil	Not less than 3FDA	Not over 0°C.	Not more than 7%
18% Frozen Tar Acid Oil	Not less than 2FDA	Not over 0°C.	Not more than 7%
15% Frozen Tar Acid Oil	Not less than 1FDA	Not over 0°C.	Not more than 7%

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K O P P E R S

TABLE 1.—*Differences in media and manipulation of the three methods of determining phenol coefficient.*

Item	F. D. A. method	R-W method	H. L. method
Composition of medium	Peptone[1], 10 gm. Liebig's beef extract, 5 gm. Salt, 5 gm. Water, 1,000 c. c. Boil 20 minutes	Peptone[2], 20 gm. Liebig's beef extract, 10 gm. Salt, 10 gm. Water, 1,000 c. c. Boil 30 minutes	Peptone[1], 10 gm. Liebig's beef extract, 3 gm. Salt, 5 gm. Water, 1,000 c. c. Boil 15 minutes.
Acidity of medium	pH 6.8	+1.5. No definite pH	Unadjusted but pH between 6.0 and 7.0.
Amount of culture medium in tube.	10 c. c.	5 c. c.	10 c. c.
Amount of culture added to diluted disinfectant.	0.5 c. c. to 5.0 c. c.	0.5 c. c. to 5.0 c. c.	0.1 c. c. to 5.0 c. c.
Resistance of test culture to phenol (dilutions killing in 10 minutes but not in 5 minutes).	1-90	1-90 to 1-110	No limits stated.
Condition of tube in test	Plugged with cotton	Plugged with cotton	Open tubes.
Temperature of test	20° C.	15-18° C.	20° C.
Time intervals of the test	5, 10, and 15 minutes	2½, 5, 7½, and 10 minutes	5, 7½, 10, 12½, and 15 minutes.
Amount of medication mixture transferred (size of loop).	4 mm. loop (of No. 23 B. and S. gage wire).	4 mm. loop (of No. 27 Imperial gage wire).	Spiral loop (four spirals wrapped around a No. 13 B. and S. gage wire. Made of No. 23 B. and S. gage wire).
Calculation of phenol coefficient.	Highest dilution not killing in 5 minutes but killing in 10 minutes divided by same for phenol.	Highest dilution not killing in 5 minutes but killing in 7½ minutes divided by same for phenol.	Mathematical mean of highest dilutions showing no growth in 5, 10, and 15 minutes divided by same for phenol.

[1]Armour's, Special batch set aside for disinfectant testing.
[2]Allen and Hanbury's.

method is applicable, should be used for disinfecting purposes. As heretofore, this dilution should be at least equal in strength to a 5 per cent solution of phenol when tested against *Eberthella typhi* (20 times the phenol coefficient figure) and should be based on a phenol coefficient not higher than that obtained by the F. D. A. method.

FOOD AND DRUG ADMINISTRATION METHOD

THE test organism is a 22-26 hour culture of *Eberthella typhi* (Hopkins strain) incubated and grown in nutrient broth at 37° C. The broth contains the following ingredients: 5 gm. of Liebig's beef extract, 5 gm. of chemically pure sodium chloride, and 10 gm. of Armour's peptone (for disinfectant testing) in 1,000 c. c. of distilled water. The mixture is boiled for 20 minutes, made up to original weight (or volume) with distilled water, and adjusted with NaOH to pH 6.8 using the colorimetric method (3, *p.* 405-421.) It is then filtered through paper, tubed (10 c. c. to each tube), and the tubes plugged with cotton and sterilized at 15 pounds pressure for 40 minutes. The test culture is transferred daily in this medium for not more than one month. At the end of each month, a fresh transfer is made from the stock culture. The stock culture is carried on agar slants of the same composition as the broth medium plus 1½ per cent Bacto-Agar (Difco), adjusted to pH 7.2 to 7.4. This medium is also filtered, tubed, plugged with cotton, sterilized, and slanted. The stock culture is transferred once a month, and the test organism is taken from the month-old stock culture. When the test organism has not been transferred daily, it is advisable to make four or five consecutive daily transfers in broth before using it for testing purposes, to be reasonably sure of its conforming to the phenol resistance requirements. When only one transfer has been skipped the following transfer from the 48-hour culture is usually satisfactory for use after 24 hours. Transfers are made with the platinum loop used in the test. Only cultures giving readings within the following limits are considered satisfactory:

Phenol	5 min.	10 min.	15 min.
1-90	+	+	0
1-100	+	+	+
or			
1-90	0	0	0
1-100	+	+	+

The following reading is that most usually obtained and is the most convenient:

Phenol	5 min.	10 min.	15 min.
1-90	+	0	0
1-100	+	+	+

PHENOL

The phenol used must meet the requirements of the United States Pharmacopoeia, and in addition the congealing point must not be below 40° C. A 5 per cent solution may be used as a stock solution if kept in a relatively cool place in well-stoppered amber-colored bottles protected from the light. This 5 per cent solution should be standardized with decinormal bromine (described under "phenol" (10, *p.* 823), or with sodium bromide and bromate solution (9, *pp.* 404-405).

APPARATUS

Besides a number of accurately graduated pipettes, 100-c. c. glass-stoppered graduates or volumetric flasks are almost essential for the making of correct dilutions. All pipettes and graduates should be standardized. The test tubes for containing the dilutions should be large enough to permit transfers being made without touching the sides with the transfer needle. Lipped pyrex (to withstand constant flaming) test tubes 25 by 150 mm. serve very well as these seeding or medication tubes. A water bath for holding the dilutions at the desired temperature must be provided. To maintain the temperature practically constant during the period of the test, the bath should be made so as to contain a relatively large volume per surface area, and should be insulated. The lid is made with well-spaced holes admitting the 25-mm. tube, but not the lip. The most convenient form of subculture tubes (tubes containing medium for incubating the tested organisms, as well as for growing the test culture) are ordinary non-lipped bacteriological test tubes 20 by 150 mm. The racks for holding the subculture tubes may be any convenient style. Blocks of wood with a series of holes bored in them are quite satisfactory. Dimensions depend somewhat on the size of the incubator, but the holes should be well spaced to insure quick selection and easy manipulation during the test. It is an added convenience to have the holes large enough to admit the medication tubes while dilutions are being made. The transfers are made with a 4-mm. (inside diameter) single loop of number 23 B. & S. gage platinum wire, 1½ to 3 inches long, set in a suitable holder such as an aluminum or glass rod approximately 0.5 cm. in diameter.

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PROCEDURE

One per cent stock dilutions of the substance to be tested (or any other convenient dilution of the disinfectant, depending on the strength are made up, usually in the glass-stoppered cylinders or volumetric flasks from which the individual dilutions are then prepared. For rapid routine work, the final dilutions may be made directly in the medication tubes. In this case all excess over 5 c. c. must be removed. For more precise work and when high dilutions are required or volatile substances are dealt with, it is preferable to make up all of the dilutions in volumetric flasks and then transfer 5 c. c. of the final dilution to the medication tubes. These tubes containing 5 c. c. of each dilution (including the phenol control) are placed in the water bath at 20° C, for five minutes until the temperature of the bath is reached. Even slight variations in temperature may affect the results. The dilutions should cover the range of the killing limits of the disinfectant within 5-and 15-minute periods and should at the same time be spaced sufficiently close together to insure the desired accuracy. Five-tenths of a cubic centimeter of the test culture is then added to each of the dilutions at a time interval corresponding to the interval at which the transfers are to be made. Thus by the time 10 tubes have been seeded at 30-second intervals, four and one-half minutes will have elapsed and a 30-second interval intervenes before the transference to the subcultures is commenced. The culture is added from a graduated pipette holding sufficient culture to seed all the tubes in any one set. The pipette may be loosely plugged with cotton at the mouth end before sterilizing, as a precautionary measure. Unfiltered culture is used, but it should be thoroughly shaken 15 minutes before use and allowed to settle. The temperature of the culture should be practically that of the water bath before being added.

In inoculating the medication tubes they should be held in a slanting position, after removal from the bath, and the culture run in without the tip of the pipette touching the disinfectant. The tip may be allowed to rest against the side of the tube just above the surface of the liquid. The tubes are agitated gently but thoroughly after the addition of the culture to insure even distribution of the bacteria. Five minutes from the time of seeding the first medication tube, transfer 1 loopful of the mixture of culture and diluted disinfectant from the medication tube to the corresponding subculture tube. To facilitate transfer of uniform drops of the medication mixture, the loop is bent to form a slight angle with the stem and the medication tube is held at an angle of 60°. In other words, as the loop is withdrawn, its plane should be parallel with the surface of the liquid. At the end of 30 seconds, a loopful is transferred from the second medication tube to the second subculture tube and the process continued for each successive dilution. Five minutes from the time of making the first transfer, a second set of transfers is begun for the 10-minute period and finally repeated for the 15-minute period. Before each transfer the loop is heated to red heat in the Bunsen flame and the mouth of every tube is flamed. Sterilization of the loop is effected immediately after making the previous transfer (before replugging the tubes) to allow time for sufficient cooling. Time does not permit flaming the tubes after making the transfer. For this reason, care in transferring and seeding is necessary. Due caution is observed to prevent either the seeding pipette or the transfer needle from touching the sides or mouth of the medication tube; neither should cotton threads be found adhering to the sides or mouth of these. After completion of the transferring, the subculture tubes are incubated at 37° C. for 48 hours and results read. Microscopic examinations usually suffices for this, but occasionally agglutination with antityphoid serum will aid in reading doubtful results. A 3-day incubation period or agar streak or microscopic examination may be resorted to in determining feeble growth, especially when organisms other than *Eberthella typhi* are used.

There are certain types of germicidal agents, such as many of the mercury compounds, which give very high results by phenol coefficient tests (8). Due to the high inhibitory value of such substances in preventing growth in the subcultures these figures are frequently misleading. For germicides used in the disinfection of such objects as surgical instruments, this is of particular importance and must be taken into account. Failure to appreciate this characteristic of certain compounds is much more likely to lead to error when *Staphylococcus aureus* is used rather than *Eberthella typhi* as the test organism. That false values may not be obtained for products of this type, or for any other disinfectant giving suspiciously high results, the subcultures should contain very large amounts of medium (not less than 200 c. c.) or they should be retransferred by carrying at least 4 loopfuls from the first subculture to a second tube of broth, as recommended by Shippen (8).

Other groups of disinfectants in common use, for which the phenol coefficient method of testing is not well adapted, are those compounds containing chlorine as the active agent as well as oxidizing agents in general. These are affected so materially by the presence of organic matter that a phenol coefficient statement may grossly misrepresent their value under practical conditions of use and is very apt to be misleading to the consumer when placed on the label.

CALCULATION OF PHENOL COEFFICIENT

THE results of the test are expressed in terms of the phenol coefficient. This represents the germicidal value of the diluted disinfectant as compared with the diluted phenol control. It is a figure obtained by dividing the numerical value of the greatest dilution (the denominator of the fraction expressing the dilution) of the disinfectant capable of killing *Eberthella typhi* in 10 minutes but not in 5 minutes, by the greatest dilution of phenol showing the same results; that is, by the phenol control. Thus, if the results were as follows:

Disinfectant (X):

	5 min	10 min.	15 min.
1-300	0	0	0
1-325	+	0	0
1-350	+	0	0
1-375	+	+	0
1-400	+	+	+
Phenol:			
1-90	+	0	0
1-100	+	+	+

The phenol coefficient would be $\frac{350}{90} = 3.89$.

If none of the dilutions show growth in 5 minutes and killing in 10 minutes, the hypothetical dilution may be estimated in certain cases. This may be done only when any three consecutive dilutions show the following results:

The first, no growth in 5 minutes; the second, growth in 10 minutes but not in 15 minutes; and the third, growth in 15 minutes; for example:

If the results were as follows:

Disinfectant (X):

	5 min	10 min.	15 min.
1-300	0	0	0
1-350	+	+	0
1-400	+	+	+
Phenol:			
1-90	0	0	0
1-100	+	+	0

the estimated phenol coefficient would be

$$\frac{325}{95} = 3.42$$

To avoid giving an impression of fictitious accuracy, the phenol coefficient is calculated to the nearest 0.1 unless the coefficient is less than 1.0. Thus, in the examples cited above, the phenol coefficients would be reported as 3.9 and 3.4 instead of 3.89 and 3.42.

In the preceding description, *Eberthella typhi* has been mentioned as the test organism. Wherever any expression of phenol coefficient occurs in literature, on labels, etc., it is assumed to mean the *E. typhi* phenol coefficient, unless otherwise stated. It is, however, the distinct intention of this department not to limit the test to the use of one organism. In fact, the test has been found adaptable to the use of a wide variety of bacterial species in the determination of phenol coefficients. In cases where some of the more strictly parasitic bacteria are used, modifications in media are necessitated, and, of course, a change in the phenol dilutions. The writers are not in a position at this time to prescribe the limits of resistance for many of the organisms that might be used. Therefore discussion of the exact technic is here omitted, with the exception of that for *Staphylococcus aureus*. Suggestions for the use of certain representative types may, however, be found in a paper by Reddish (5). When any test organism other than *E. typhi* is used it should be distinctly designated when stating the phenol coefficient.

S. aureus has been found to be an extremely useful organism for testing disinfectants and antiseptics and has been used for this purpose for a number of years. When substituted in the above test the

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technic remains exactly the same. The phenol dilutions, however, must be changed. The resistance of any strain of *S. aureus* used in this test must come within the following limits: At 20° C. it must survive a 1-60 dilution of phenol for 5 minutes and a 1-70 dilution for 15 minutes. The following is the minimal resistance that would be acceptable:

	5 min	10 min.	15 min.
Phenol:			
1-60	+	0	0
1-70	+	+	+

In the bacteriological examination of disinfectants, the *Eberthella typhi* and the *S. aureus* phenol coefficients give, in general, sufficient information to render tests with other organisms unnecessary, except in special instances. The commonly accepted criterion that disinfectants for general use be employed at a dilution equivalent to the germicidal efficiency of 5 per cent phenol against *E. typhi* (that is, 20 times the *E. typhi* phenol coefficient) allows a reasonable margin of safety for the destruction of infective agents likely to be the object of general disinfection about premises with the possible exception of *Mycobacterium tuberculosis*. *S. aureus*, due to it subiquity resistance and ever-ready tendency to cause infection, should always be employed in testing those substances recommended for personal use or as applications for wounds. If the disinfectant is recommended for use externally the temperature of the test should be 20° C., but where such substances are recommended for use in the body cavities, such as for mouth washes, gargles, douches, etc., this test should be conducted at 37°. In such case the test should be designated "The F. D. A. method (special) *S. aureus*, 37° C." At body temperature the *S. aureus* should show the following resistance to phenol:

	5 min	10 min.	15 min.
1-80	+	0	0
1-90	+	+	+

Or

	5 min.	10 min.	15 min.
1-80	+	0	0
1-90	+	+	0

The previous description of this method (5) differed from this only in allowing a slightly wider latitude in the resistance of the test organism against phenol.

OTHER TESTS FOR GERMICIDES[1]

THE limitations of the phenol coefficient make it necessary in some cases to judge the germicidal preparation by other tests or by additional tests. This is particularly true of preparations that are not completely soluble or miscible in water. It is also true of certain preparations designated as antiseptics.

Soluble antiseptics or antiseptics completely miscible with water can be tested, of course, by the procedure already described as the F. D. A. *Staphylococcus aureus* phenol coefficient method. In the testing of these substances, however, the phenol coefficient is not obtained necessarily, the phenol figure being used merely as a check of the resistance of the test organism. The information desired is the concentration which will kill in five minutes.

In an effort to stimulate practical conditions, it is frequently advisable to conduct the tests in the presence of blood serum. Sterile horse serum in a concentration of 10 per cent is ordinarily used, both in the germicidal and inhibitory tests. Special claims and uses of a product, however, frequently indicate the desirability of a higher concentration of this organic enrichment.

The following methods designed for the testing of insoluble and immiscible products are in use in this laboratory at the present time. Some of them have been used for years and have been described previously (6). Laboratory tests, of course, cannot duplicate the exact conditions found in practice. The procedures here outlined, however, are as close an approach to practical conditions as is feasible in routine laboratory tests, and reveal the obviously useless preparations. It should be noted that inhibitory tests are considered along with other facts in interpreting whether or not the substance will be of value in practical use. It must be remembered that not only bacteriological but physiological and pharmacological facts frequently must be taken into consideration in judging many substances.

THE WET FILTER-PAPER METHOD

The wet filter-paper method is a germicidal test rather than a test of inhibitory properties. It is used when the substance to be tested is not soluble or completely miscible with water, or for substances that are to be used in high concentration, such as soaps, tooth pastes, suppositories, dyes, dusting powders, salves, and ointments. If the substance is to be used in the body cavities the test is carried out at 37° C.; if not, the test is carried out at 20°, or at room temperatures, and the temperature is recorded.

No. 2 Whatman filter paper is cut into pieces about 0.5 cm. square, and sterilized in a plugged test tube at temperatures below 170° C. to prevent charring. A suitable number of the paper squares are then impregnated with *Staphylococcus aureus*, or other test organisms, by immersion in a 24-hour broth culture of the organism. The culture must have the standard resistance required for phenol coefficient testing. The wet inoculated squares are then placed in the liquid or solid substance to be tested in such a way as to be completely covered and in intimate contact. At the end of 5 minutes, 10 minutes, 15 minutes, or 1 hour, or any other desired length of time, the wet papers are removed with a sterilized, stiff, platinum wire bent at a sharp angle to form a hook and placed in 10 c. c. of sterile broth. After as much of the disinfectant as possible has been removed (in the case of sticky substances, the needle must be used to aid in freeing the squares of adherent germicide) the squares are retransferred to a fresh tube of sterile broth (10 c. c.) and the tubes incubated at 37° for 48 hours, when they are observed for evidence of growth.

It will be noted that in this test resubcultures are always required, since the first tube of broth to which the filter-paper squares have been added frequently contains sufficient antiseptic to exhibit inhibition of growth. Both tubes of broth are usually incubated.

THE DRY FILTER-PAPER METHOD

The dry filter-paper method is used in tests of fumigants and of oils that are to be used where moisture is absent. It is similar to the wet filter-paper test, squares of paper being used that have been impregnated as described under the test above, except the squares are dried for two days in a sterile Petri dish in the 37° C. incubator. This test can be used successfully only with organisms capable of resisting the drying. *Eberthella typhi* will not withstand the drying. In the writers' work *Staphylococcus aureus* is the usual test organism. The inoculated dried paper squares may be used at any time after drying up to 30 days, but the resistance of the organism at no time should fall so low that it is incapable of withstanding a 1-80 dilution of phenol for five minutes at 20°. It should be noted that control tests with nonmedicated squares should always be carried out to test the viability of the test organism. As in the wet filter-paper method, resubcultures are always necessary.

THE AGAR-PLATE METHOD

The agar-plate method is a test for inhibitory properties and is used for substances remaining in contact, with the body in the absence of serous body fluids. Examples of substances which may be tested by this method are salves, dusting powders, creams, plasters, pads, adhesive tape, catgut, and suppositories. The test organism ordinarily used is *Staphylococcus aureus*, but for special purposes the test may be used with any organism capable of growing on agar. The agar is of the same composition as that previously described for carrying stock cultures of the test organism.

Fifteen to twenty cubic centimeters of agar is melted and cooled to 42°-45° C. To this is added 0.1 c. c. of a 24-hour broth culture of the test organism. The inoculated agar is then poured into a sterile Petri plate and allowed to harden. As soon as the agar has hardened, the test substance is placed in intimate contact with the surface of the agar. If a salve, it is first warmed just sufficiently to soften it and thus secure a complete peripheral contact. As a control, warmed sterile petrolatum may be placed on another portion of the plate. The plates are incubated 24-48 hours under unglazed porcelain tops at 37°

[1]According to current usage the word "antiseptic" has two meanings; to kill bacteria or to prevent their growth, depending upon the use of the product. Products such as salves, ointments, and dressings that remain in contact with the body for long periods of time, may be designated properly as antiseptics if they inhibit the growth of bacteria. On the other hand, mouth washes, douches, gargles, and preparations of like nature are in contact with the body for but brief periods of time and exert negligible inhibitory action. These may be described properly as antiseptics only if they will destroy bacteria under the conditions of use; that is, in the dilutions recommended and in a period of time comparable to that in which they would have an opportunity to act when used as directed.

C. and then are examined for evidence of inhibition. If the preparation is antiseptic or inhibitory, a zone of clear agar will be noted around the place where the substance has been in contact and the width of the zone will indicate the diffusibility of the inhibitory (antiseptic) agent. If there is no inhibition, growth of the test organism will be observed adjacent to and even under the test substance.

THE SERUM AGAR-PLATE METHOD

Preparations recommended for use on open wounds, cuts, etc., will be effective only if they exhibit activity in the presence of serous fluids. In testing such preparations the agar-plate method is modified by the addition of 10 per cent sterile horse serum to the agar.

THE AGAR CUP-PLATE METHOD[5]

The agar cup-plate method is merely a variation of the agar-plate method. It is to be used on products liquid at the temperature of the test. The agar or serum agar is inoculated as in the agar-plate method. Before the agar cools, a depression or cup is made in the medium by standing a sterile flat-bottomed glass tube, 1.5 cm. in diameter, in the liquefied agar. On hardening, the glass tube is removed by slightly twisting and pulling at the same time. Insertion of a sterile wire down the side of the tube for the introduction of air will eliminate much of the cracking of the agar. Another method of preparing the agar cup-plate is to allow the medium to harden and then cut out a disk in the agar, by means of a cork borer, 1.5 cm. in diameter. One or two drops of melted agar are placed in the cup to seal cracks or crevices. After the agar cup-plate is prepared, 6 drops of the liquid to be tested are placed in the cup and the plate incubated under an unglazed porcelain top for 24 to 48 hours. If there is a clear zone about the cup, the substance under test has inhibitory properties. Here, as well as in the agar-plate test, the agar in the clear zone may be tested for growth by subculture in broth to indicate whether the action is germicidal or merely inhibitory.

TESTS IN THE PRESENCE OF ORGANIC MATTER

In general, the tests outlined above will take care of the bulk of the preparations coming to this laboratory. However, special tests may be required to determine the value of products recommended for certain purposes. For instance, recommendations on the label may make advisable the use of various additions of organic matter, such as increased amounts of peptone or the addition of gelatin, blood ascitic fluid, saliva, urine, or feces, depending upon the information desired.

[5]The authors are indebted to L. C. Himebaugh for this method.

[6]In the cases where chlorine compounds are used for this purpose the effectiveness is usually judged on the basis of "available" chlorine content.

[7]Intestinal antiseptics do not readily lend themselves to laboratory tests. When medical opinion concerning the physiological and therapeutic properties of such preparations is to be confirmed by the results of bacteriological tests, the products may be considered to be germicidal only when tested in the presence of liberal amounts of organic matter, such as saliva, feces, etc.

METHOD APPLICABLE IN A GIVEN CASE

Substance	Method Applicable
Soluble disinfectants:	
A. Preparations for general use.	Phenol coefficient—*E. typhi* at 20° C.
B. Preparations for antiseptic use.	Phenol coefficient technic—*S. aureus* 20° C. or 37° C. as indicated.
C. Preparations for surgical use.	Phenol coefficient technic—*S. aureus* 20° C.
Insoluble and concentrated disinfectants:	
A. Preparations for general use (oils, tarry substances, powders, lime, etc.)	Wet filter paper—*E. typhi* and *S. aureus*. Room temperature.
B. Preparations for use on dry surfaces (spraying oils, sweeping compounds, powders, lime).	Dried filter paper—*S. aureus*. Room temperature.
C. Preparations for fumigation (filter paper and exposed to gas in confined space).	Wet filter paper—*E. typhi* and *S. aureus;* room temperature. Dried filter paper—*S. aureus;* room temperature. (Extension of time may be indicated).
Soluble and liquid antiseptics:	
A. Preparations to be applied for a short time (washes, mouth washes, gargles, douches, etc.).	Phenol coefficient technic—*S. aureus* 20° C. or 37° C. as indicated.
B. Preparations for use on open wounds, etc. (washes)	Phenol coefficient technic—*S. aureus* 20° C. or 37° C. as indicated. (Tested in presence of 10 per cent serum.)
C. Preparations remaining on site of application (dyes, wet dressings, rubbing preparations, etc.).	Agar cup-plate.
D. Preparations for use on open wounds, etc. (dyes, wet dressings, etc.).	Serum agar cup-plate.
E. Preparations remaining on site of application but claiming germicidal properties.	Wet filter paper—*S. aureus* 37° C. Extension of time may be indicated.
Solid soluble antiseptics:	
A. Lozenges, tablets, etc.	Wet filter paper—*S. aureus* 20° C. or 37° C. as indicated. Note: Saturated aqueous solution or in dilution indicated.
Insoluble and concentrated antiseptics:	
A. Preparations remaining on site of application (dusting powders, ointments, salves, suppositories, plasters, dressings, etc.)	Agar plate.
B. Preparations remaining on site of application but claiming germicidal properties.	Wet filter paper—*S. aureus* 37° C. Extension of time may be indicated.
C. Preparations for use on open wounds, etc.	Serum agar plate.
Antiseptic materials, appliances, etc.:	
A. Bandages, dressings, catgut, etc.	Serum agar plate.
B. Tape, pads, etc.	Agar plate.
Solid and semisolid antiseptics:	
A. Preparations used for a short time (soaps, soap powders, tooth pastes, tooth powders, etc.).	Wet filter paper—*S. aureus* 20° C. or 37° C. as indicated. (Note: Undiluted and diluted with equal parts water or diluted with sufficient water to form a thick paste or heavy emulsion.)
Disinfectants and antiseptics for use in the absence of organic matter:	
A. Preparations for drinking water.[6]	Phenol coefficient technic—*E. typhi* 20° C. (Note: 0.1 c. c. of culture to 10 c. c. of diluted preparation.)
Intestinal antiseptics.[7]	

(5 c. c. of disinfectant + 95 c. c. of distilled water = solution A)

Dilution	*Solution A C. c.*		*Distilled water C. c.*		*Solution A C. c.*		*Distilled water C. c.*		*Solution A C. c.*		*Distilled water C. c.*
1:20	= 20	+	0	or	10	+	0	or	4	+	0
1:25	= 20	+	5	or	10	+	2½	or	4	+	1
1:30	= 20	+	10	or	10	+	5	or	4	+	2
1:35	= 20	+	15	or	10	+	7½	or	4	+	3
1:40	= 20	+	20	or	10	+	10	or	4	+	4
1:45	= 20	+	25	or	10	+	12½	or	4	+	5
1:50	= 20	+	30	or	10	+	15	or	4	+	6

1:55	=	20	+	35	or	10	+	17½	or	4	+	7
1:60	=	20	+	40	or	10	+	20	or	4	+	8
1:65	=	20	+	45	or	10	+	22½	or	4	+	9
1:70	=	20	+	50	or	10	+	25	or	4	+	10
1:80	=	20	+	60	or	10	+	30	or	4	+	12
1:90	=	20	+	70	or	10	+	35	or	4	+	14
1:100	=	20	+	80	or	10	+	40	or	4	+	16
1:110	=	20	+	90	or	10	+	45	or	4	+	18
1:120	=	20	+	100	or	10	+	50	or	4	+	20
1:130	=	20	+	110	or	10	+	55	or	4	+	22
1:140	=	20	+	120	or	10	+	60	or	4	+	24
1:150	=	20	+	130	or	10	+	65	or	4	+	26
1:160	=	20	+	140	or	10	+	70	or	4	+	28
1:170	=	20	+	150	or	10	+	75	or	4	+	30
1:180	=	20	+	160	or	10	+	80	or	4	+	32
1:200	=	20	+	180	or	10	+	90	or	4	+	36
1:200	=	20	+	180	or	4	+	36	or	2	+	18
1:225	=	20	+	205	or	4	+	41	or	2	+	20½
1:250	=	20	+	230	or	4	+	46	or	2	+	23
1:275	=	20	+	255	or	4	+	51	or	2	+	25½
1:300	=	20	+	280	or	4	+	56	or	2	+	28
1:325	=	20	+	305	or	4	+	61	or	2	+	30½
1:350	=	20	+	330	or	4	+	66	or	2	+	33
1:375	=	20	+	355	or	4	+	71	or	2	+	35½
1:400	=	20	+	380	or	4	+	76	or	2	+	38
1:450	=	20	+	430	or	4	+	86	or	2	+	43
1:500	=	20	+	480	or	4	+	96	or	2	+	48

(1 c. c. of disinfectant + 99 c. c. of distilled water = solution B)

Dilution		*Solution B C. c.*		*Distilled water C. c.*		*Solution B C. c.*		*Distilled water C. c.*		*Solution B C. c.*		*Distilled water C. c.*
1:100	=	100	+	0	or	10	+	0	or			
1:100	=	100	+	10	or	10	+	1	or			
1:120	=	100	+	20	or	10	+	2	or			
1:130	=	100	+	30	or	10	+	3	or			
1:140	=	100	+	40	or	10	+	4	or			
1:150	=	100	+	50	or	10	+	5	or			
1:160	=	100	+	60	or	10	+	6	or			
1:180	=	100	+	80	or	10	+	8	or			
1:200	=	100	+	100	or	10	+	10	or	4	+	4
1:225	=	100	+	125	or	10	+	12½	or	4	+	5
1:250	=	100	+	150	or	10	+	15	or	4	+	6
1:275	=	100	+	175	or	10	+	17½	or	4	+	7
1:300	=	100	+	200	or	10	+	20	or	4	+	8
1:325	=	100	+	225	or	10	+	22½	or	4	+	9
1:350	=	100	+	250	or	10	+	25	or	4	+	10
1:375	=	100	+	275	or	10	+	27½	or	4	+	11
1:400	=	100	+	300	or	10	+	30	or	4	+	12
1:400	=	10	+	30	or	4	+	12	or	2	+	6
1:450	=	10	+	35	or	4	+	14	or	2	+	7
1:500	=	10	+	40	or	4	+	16	or	2	+	8
1:550	=	10	+	45	or	4	+	18	or	2	+	9
1:600	=	10	+	50	or	4	+	20	or	2	+	10
1:650	=	10	+	55	or	4	+	22	or	2	+	11
1:700	=	10	+	60	or	4	+	24	or	2	+	12
1:750	=	10	+	65	or	4	+	26	or	2	+	13
1:800	=	10	+	70	or	4	+	28	or	2	+	14
1:850	=	10	+	75	or	4	+	30	or	2	+	15
1:900	=	10	+	80	or	4	+	32	or	2	+	16
1:900	=	5	+	40	or	4	+	32	or	2	+	16
1:1,000	=	5	+	45	or	4	+	36	or	2	+	18
1:1,100	=	5	+	50	or	4	+	40	or	2	+	20
1:1,200	=	5	+	55	or	4	+	44	or	2	+	22
1:1,300	=	5	+	60	or	4	+	48	or	2	+	24
1:1,400	=	5	+	65	or	4	+	52	or	2	+	26
1:1,500	=	5	+	70	or	4	+	56	or	2	+	28
1:1,600	=	5	+	75	or	4	+	60	or	2	+	30
1:1.700	=	5	+	80	or	4	+	64	or	2	+	32
1:1,800	=	5	+	85	or	4	+	68	or	2	+	34
1:2,000	=	5	+	95	or	4	+	76	or	2	+	38
1:2,200	=	5	+	105	or	4	+	84	or	2	+	42
1:2,400	=	5	+	115	or	4	+	92	or	2	+	46
1:2,600	=	5	+	125	or	4	+	100	or	2	+	50
1:2,800	=	5	+	135	or	4	+	108	or	2	+	54
1:3,000	=	5	+	145	or	4	+	116	or	2	+	58
1:3,200	=	5	+	155	or	4	+	124	or	2	+	62

LITERATURE CITED

(1) Bergey, D. H., assisted by Harrison, F. C., Breed, R. S., Hammer, B. W., and Huntoon, F. M. 1930. Manual of Determinative Bacteriology; A Key for the Identification of Organisms of the Class Schizomycetes. Ed. 3, 589 p. Baltimore.

(2) Brewer, C. M., and Reddish, G. F. 1929. A Comparison of the Hygienic Laboratory Test with the Method Used by the Department of Agriculture for Testing Disinfectants. Jour. Bact. 17:44.

(3) Giltner, W. 1926. Laboratory Manual in General Microbiology. Ed. 3. rev., 492 p., illus. New York.

(4) Moore, Q. 1926. Note on the Testing of Disinfectants by the Rideal-Walker Method. Jour. Soc. Chem. Indus. Trans. 45 (53); T472-474T.

(5) Reddish, G. F. 1927. Examination of Disinfectants. Amer. Jour. Pub. Health 17; 320-329.

(6) ——— 1929. Methods of Testing Antiseptics. Jour. Lab. and Clin. Med. 14; 649-658, illus.

(7) Rideal, S., and Walker, J. T. A. 1921. Approved Technique of the Rideal-Walker Test. 12 p. London.

(8) Shippen, L. P. 1928. A Fallacy in the Standard Methods of Examining Disinfectants. Amer. Jour. Pub. Health 18; 1231-1234.

(9) Sutton, F. 1924. A Systematic Handbook of Volumetric Analysis; or, The Quantitative Determination of Chemical Substances by Measure, Applied to Liquids, Solids, and Gases, Adapted to the Requirements of Pure Chemical Research, Pathological Chemistry, Pharmacy, Metallurgy, Manufacturing Chemistry, Photography, etc., and for the Valuation of Substances Used in Commerce, Agriculture, and the Arts. Ed. 11, rev. throughout by W. L. Sutton and A. E. Johnson. 629 p., illus. Philadelphia.

(10) United States Pharmacopoeial Convention, Commitee on Revision. (1925). The Pharmacopeia of the United States of America. By authority of the United States Pharmacopeial Convention held at Washington, D. C., May 11, 1920. Official from January 1, 1926. Decennial Rev. 10 (U. S. P. X.), 626 p., illus. Philadelphia.

(11) United States Public Health Service. 1921. Disinfectant Testing by the Hygienic Laboratory Method. Pub. Health Rpts. (U. S.) 36 (27); 1559-1564. (Also Reprint 675.)

(12) Wright, J. H. 1917. The Importance of Uniform Culture Media in the Bacteriological Examination of Disinfectants. Jour. Bact. 2; 315-346, illus.

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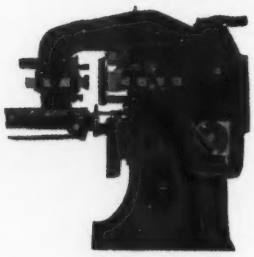

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1838 — 1938

A Century of Experience

58% Soda Ash

bulk—paper bags—burlap bags—barrels

Silicate Soda — various grades —

liquid — crystal — metasilicate

CAUSTIC SODA
liquid—tank cars—tank wagons
solid—flake—ground

CARBONATE POTASH
liquid—hydrate—calcined

TRI SODIUM PHOSPHATE
coarse—medium—powdered

DI SODIUM PHOSPHATE CRYSTALS

DI SODIUM PHOSPHATE ANHYDROUS

BATH POWDER — BATH OILS

CAUSTIC POTASH

SAL SODA

BICARBONATE OF SODA

SOAP COLORS

CHLOROPHYLL

MONO SODIUM PHOSPHATE

TRI SODIUM PHOSPHATE MONOHYDRATE

TETRA SODIUM PHOSPHATE
crystals—anhydrous

PARADICHLORBENZENE

ORTHODICHLORBENZENE

CARBON TETRACHLORIDE

VEGETABLE OILS		ANIMAL FATS	FATTY ACIDS
CASTOR OIL	OLIVE OIL FOOTS	TALLOW	COCONUT OIL
COCONUT OIL	PEANUT OIL	GREASE	PALM OIL
CORN OIL	LINSEED OIL	LANOLIN	LINSEED OIL
COTTONSEED OIL	RAPESEED OIL	LARD OILS	TALLOW
PALM OIL	SESAME OIL	NEATSFOOT OIL	PEANUT OIL
PALM KERNEL OIL	SOYA BEAN OIL	OLEO STEARINE	COD LIVER OIL
OLIVE OIL	TEASEED OIL	TALLOW OIL	

Stearic Acid *Red Oil* *White Olein*

White Mineral Oils *Cereps (super fatting agent)*

WELCH, HOLME & CLARK CO., INC.

563 GREENWICH STREET *Established 1838* NEW YORK, N. Y.

United States Fat and Oil Tariff Rates and Excise Taxes

Fat or Oil (1) VEGETABLE OILS AND FATS	*Duty* (2)	*Excise Tax on First Domestic Processing* (6)
Copra	Free	—
Coconut oil from or produced of materials from the Philippines or any other U. S. possession (7)	Free (3)	3c
other	2c per lb.	5c
Palm oil		
for tin plate	Free (8)	— (8)
other	Free (8)	3c (8)
Palm-kernel oil		
unfit for food	Free	3c
other	1c per lb.	3c
Fatty acids or salts of above	(4)	3c
Babassu oil	Free (9)	— (9)
Corn oil	20% ad valorem	—
Cottonseed oil	3c per lb.	—
Olive oil weighing with container less than 40 pounds	8c per lb.	—
rendered unfit for food	Free	—
n.s.p.f.	6½c per lb.	—
Peanut oil	4c per lb.	—
Fatty acids or salts of rape, sesame, sunflower, hempseed, linseed or perilla oils	(4)	4½c
Soybean oil	3½c per lb. but not less than 45% ad val.	—

(1) Whether or not refined, sulphonated, sulphated, hydrogenated, or otherwise processed.

(2) Products entering continental United States from "possessions" of the United States are free of duty, except that "following the inauguration of the Government of the Commonwealth of the Philippine Islands, Nov. 15, 1935, and pending complete independence (July 4, 1946), any coconut oil imported into the United States from the Philippines in excess of 200,000 long tons shall be subject to the same rate of duty as if imported from any other country."

Imports from foreign countries into Alaska, Hawaii, and Puerto Rico are subject to the tariff schedules of continental United States. The Philippines, Virgin Islands, American Samoa, and Guam, have separate tariff schedules of their own.

The tariff status of fats and oils, and oil materials produced in Cuba has not been determined at this date (July 1936). It depends upon future decisions as to the applicability of Article I of the Cuban Trade Agreement of Aug. 24, 1934, to each particular product. If and when one of these items is imported from Cuba a decision will be made as to whether it is or is not entitled to free entry. Information as to the actual tariff status at any given time of any product imported from Cuba may be obtained from the Division of Classification, Bureau of the Customs, Washington, D. C. In general, rates on dutiable Cuban products are 20 per cent less than the lowest rates accorded products of other foreign countries. In a few cases more than 20 per cent reduction is accorded to Cuba.

Under the Trade Agreements Act the concessions apply to articles the growth, produce, or manufacture of all foreign countries except countries declared by the President to be discriminating against the United States. Up to July 10, 1936, Germany and Australia are the only countries to be placed in this class and therefore the only countries not receiving the benefit of the rates proclaimed under the Trade Agreements Act.

(3) In this case "United States" means the States, the Territories Alaska and Hawaii, and the District of Columbia (according to Sec. 1111

U. S. Fat and Oil Tariff Rates and Excise Taxes

Fat or Oil (1)	*Duty* (2)	*Excise Tax on Imports into United States Per Pound* (3)
ANIMAL FATS AND OILS		
Tallow	½c per lb.	3c
All other inedible animal oils, fats or greases n.s.p.f.	20% ad valorem	3c
fatty acids or salts of above	(4)	3c
MARINE ANIMAL AND FISH OILS—		
Herring, menhaden, and cod oils	5c per gal.	3c (5)
Whale (other than sperm) and seal oil	6c per gal.	3c (5)
All other fish and marine animal oils n.s.p.f.	20% ad valorem	3c (5)

Fat or oil combinations or manufactured articles (1)	*Duty* (2)	*Excise tax on first domestic processing* (6) *or on imports into United States* (3) *Per pound*
Any combination or mixture containing a substantial quantity of—(coconut oil, palm oil, or palm-kernel oil)	25% ad val. (10)	3c (11) (12)
fatty acids or salts of the foregoing	(4)	3c (11) (12)
Manufactured articles or combinations containing 10 percent or more by weight of— taxable fats and oils	25% ad val. (10)	3 or 4½c on oil content (11)
taxable fatty acids or salts of the foregoing.	(4)	3 or 4½c on oil content (11)
SOAP—		
Castile	15%	(11)
Other toilet	30%	(11)
All other, including soap powder	15%	(11)

(a) (10), Revenue Act of 1932, and Sec. 801 (a) (10), Revenue Act of 1934).

(4) Specific cases subject to Treasury Decisions as to classification, but probably as follows: fatty acids commercially known by name of specific acid (except oleic acid, that is "red oil"), 25 per cent ad valorem. Oleic acid and fatty acids not commercially known by name of acid, 20 per cent ad valorem, but if "foots" or waste unsought, dutiable at 10 per cent ad valorem. Salts subject to Treasury Decisions, probably 25 per cent ad valorem.

(5) Does not apply to product of American fisheries.

(6) According to a ruling of the Bureau of Internal Revenue, (Reg. No. 48) "first domestic processing" means the first use in the United States of the oil or oils in the manufacture or production of an article intended for sale.

(7) "Possessions" of the United States include Philippine Islands and the following designated as "noncontiguous territories," Alaska, Hawaii (including Midway Islands), Puerto Rico, Guam, American Samoa (including Swain Island), Wake Island (radio station), Panama Canal Zone, and Virgin Islands.

Hawaii and Alaska are technically designated as "Territories."

(8) Bound against change during life of Netherlands Trade Agreement, Feb. 1, 1936.

(9) "Bound" free from duty and tax during life of Brazilian Trade Agreement, Jan. 1, 1936.

(10) Combinations and mixtures of animal, vegetable, or mineral oils or of any of them (except combinations or mixtures containing essential or distilled oils) with or without other substances and n.s.p.f., but not less than the rate applicable to the component material subject to the highest rate of duty.

(11) Rate or rates applicable to particular mixtures or combinations or manufactured articles presumably will be indicated by Treasury Decisions on classification as need arises. Excise taxes do not apply to any item in the combination or mixture on which an import or first domestic processing tax has been previously paid.

(12) On first domestic processing.

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APPROXIMATE CONSTANTS OF SOAP OILS

Oil or Fat	Sp. Gr. (Water at 15°)	Sap. No.	Iodine Value	Titer °C.	% Non-Sap.
Castor Oil	0.958—0.968	177—187	83— 86	3°—	0.3—0.5%
Coconut Oil	0.926	251—263	8— 10	20°—23°	0.2
Corn Oil	0.921—0.927	186—193	120—130	15°—19°	1.5—3.0%
Cottonseed Oil	0.915—0.926	191—196	103—115	32°—38°	0.7—1.6%
Linseed Oil	0.931—0.938	189—196	170—204	19°—21°	0.5—1.6%
Olive Oil Foots	0.914—0.919	189—195	79— 86	17°—21°	2.0—3.0%
Palm Oil	0.921—0.925	196—205	48— 58	42°—45°	0.7—1.0%
Palm Kernel Oil	0.873/99°	244—255	16— 23	20°—25°	0.2—0.5%
Peanut Oil	0.911—0.926	185—192	83— 95	28°—30°	0.5—1.0%
Sesame Oil	0.920—0.926	188—193	103—115	21°—24°	1.0—1.8%
Soya Bean Oil	0.922—0.925	191—194	125—140	21°—24°	0.3—0.6%
Tallow (beef)	0.943—0.952	193—200	35— 47	43°—45°	
Whale Oil	0.922—0.926	188—194	110—150	22°—24°	1.0—3.0%

FATTY ACIDS IN SOAP OILS

Glycerides of Acids	Coconut Oil	Corn Oil	Cottonseed Oil	Linseed Oil	Olive Oil	Palm Oil	Palm Kernel Oil	Peanut Oil	Sesame Oil	Soyabean Oil	Tallow	Whale Oil
Arachidic	—	0.4	0.6	—	0.2	—	—	3.6	4.0	0.7	—	—
Lignoceric	—	0.2	—	—	—	0.1	—	2.9	0.4	0.1	—	—
Linolenic	—	—	—	34.1	—	—	—	—	—	2.2	—	—
Linoleic	—	39.1	42.0	48.5	3.9	9.5	1.0	23.1	35.2	49.3	—	20.0
Myristic	20.0	—	0.4	—	Trace	0.6	16.0	—	—	—	2.0	8.0
Oleic	2.0	43.4	35.0	5.0	83.1	43.2	16.5	56.7	46.0	32.0	44.5	25.0
Palmitic	7.0	7.3	20.0	2.7	9.2	44.0	6.5	7.3	7.3	6.5	29.0	12.0
Palmitoleic	—	—	—	—	—	—	—	—	—	—	—	17.0
Stearic	5.0	3.3	2.0	5.4	2.0	2.9	1.0	5.5	4.4	4.2	24.5	—

Coconut oil also contains 10% Capric, 2% Caproic, 9% Caprylic and 45% Lauric. Palm Kernel Oil contains 6% Capric, 3% Caprylic and 50% Lauric. Whale Oil contains 18% Clupandonic.

TEMPERATURE CONVERSION TABLE

Centigrade to Fahrenheit

Temp. °C.	0	1	2	3	4	5	6	7	8	9
0	+32.0	30.2	28.4	26.6	24.8	23.0	21.2	19.4	17.6	15.8
—10	+14.0	12.2	10.4	8.6	6.8	5.0	3.2	+1.4	—0.4	—2.2
—20	—4.0	5.8	7.6	9.4	11.2	13.0	14.8	16.6	18.4	20.2
—30	—22.0	23.8	25.6	27.4	29.2	31.0	32.8	34.6	36.4	38.2
—40	—40.0	41.8	43.6	45.4	47.2	49.0	50.8	52.6	54.4	56.2
—50	—58.0	59.8	61.6	63.4	65.2	67.0	68.8	70.6	72.4	74.2
—60	—76.0	77.8	79.6	81.4	83.2	85.0	86.8	88.6	90.4	92.2
—70	—94.0	95.8	97.6	99.4	101.2	103.0	104.8	106.6	108.4	110.2
—80	—112.0	113.8	115.6	117.4	119.2	121.0	122.8	124.6	126.4	128.2
—90	—130.0	131.8	133.6	135.4	137.2	139.0	140.8	142.6	144.4	146.2
—100	—148.0	149.8	151.6	153.4	155.2	157.0	158.8	160.6	162.4	164.2
0	32.0	33.8	35.6	37.4	39.2	41.0	42.8	44.6	46.4	48.2
10	50.0	51.8	53.6	55.4	57.2	59.0	60.8	62.6	64.4	66.2
20	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2
30	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2
40	104.0	105.8	107.6	109.4	111.2	113.0	114.8	116.6	118.4	120.2
50	122.0	123.8	125.6	127.4	129.2	131.0	132.8	134.6	136.4	138.2
60	140.0	141.8	143.6	145.4	147.2	149.0	150.8	152.6	154.4	156.2
70	158.0	159.8	161.6	163.4	165.2	167.0	168.8	170.6	172.4	174.2
80	176.0	177.8	179.6	181.4	183.2	185.0	186.8	188.6	190.4	192.2
90	194.0	195.8	197.6	199.4	201.2	203.0	204.8	206.6	208.4	210.2
100	212.0	213.8	215.6	217.4	219.2	221.0	222.8	224.6	226.4	228.2
110	230.0	231.8	233.6	235.4	237.2	239.0	240.8	242.6	244.4	246.2
120	248.0	249.8	251.6	253.4	255.2	257.0	258.8	260.6	262.4	264.2
130	266.0	267.8	269.6	271.4	273.2	275.0	276.8	278.6	280.4	282.2
140	284.0	285.8	287.6	289.4	291.2	293.0	294.8	296.6	298.4	300.2
150	302.0	303.8	305.6	307.4	309.2	311.0	312.8	314.6	316.4	318.2
160	320.0	321.8	323.6	325.4	327.2	329.0	330.8	332.6	334.4	336.2
170	338.0	339.8	341.6	343.4	345.2	347.0	348.8	350.6	352.4	354.2
180	356.0	357.8	359.6	361.4	363.2	365.0	366.8	368.6	370.4	372.2
190	374.0	375.8	377.6	379.4	381.2	383.0	384.8	386.6	388.4	390.2
200	392.0	393.8	395.6	397.4	399.2	401.0	402.8	404.6	406.4	408.2

Comparative Values of Caustic Soda Solutions

% NaOH	% Na_2O	Be 60° F.	Tw. 60° F.	Sp. Gr. 60° F. @ 60° F.	% NaOH	% Na_2O	Be 60° F.	Tw. 60° F.	Sp. Gr. 60° F. @ 60° F.
1	.77	1.6	2.2	1.011	26	20.18	32.4	57.6	1.288
2	1.55	3.1	4.4	1.022	27	20.95	33.4	59.4	1.299
3	2.32	4.6	6.6	1.033	28	21.70	34.3	62.0	1.310
4	3.10	6.3	9.0	1.045	29	22.40	35.2	64.0	1.320
5	3.88	7.7	11.2	1.056	30	23.15	36.1	66.2	1.331
6	4.65	9.1	13.4	1.067	31	24.00	36.9	68.2	1.341
7	5.39	10.5	15.6	1.078	32	24.80	37.8	70.4	1.352
8	6.20	11.9	17.8	1.089	33	25.60	38.6	72.4	1.362
9	6.98	13.2	20.0	1.100	34	26.38	39.4	74.6	1.373
10	7.75	14.5	22.2	1.111	35	27.15	40.2	76.6	1.383
11	8.53	15.8	24.4	1.122	36	27.90	40.9	78.6	1.393
12	9.30	17.1	26.6	1.133	37	28.70	41.7	80.6	1.403
13	10.09	18.3	28.8	1.144	38	29.45	42.4	82.6	1.413
14	10.85	19.5	31.0	1.155	39	30.22	43.1	84.6	1.423
15	11.62	20.7	33.4	1.167	40	31.00	43.8	86.6	1.433
16	12.40	21.9	35.6	1.178	41	31.80	44.5	88.6	1.443
17	13.20	23.1	37.8	1.189	42	32.60	45.2	90.6	1.453
18	13.98	24.2	40.0	1.200	43	33.35	45.9	92.6	1.463
19	14.72	25.2	42.0	1.210	44	34.10	46.5	94.4	1.472
20	15.50	26.3	44.2	1.221	45	34.90	47.1	96.2	1.481
21	16.30	27.4	46.6	1.233	46	35.66	47.8	98.2	1.491
22	17.08	28.5	48.8	1.244	47	36.45	48.4	100.2	1.501
23	17.85	29.5	51.0	1.255	48	37.22	49.0	102.0	1.510
24	18.60	30.5	53.2	1.266	49	37.99	49.6	104.0	1.520
25	19.40	31.5	55.4	1.277	50	38.75	50.2	105.8	1.529

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